MULTISERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR INSTALLATION CBRN DEFENSE

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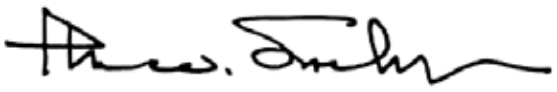
FOREWORD

This publication has been prepared under our direction for use by our respective commands and other commands as appropriate.



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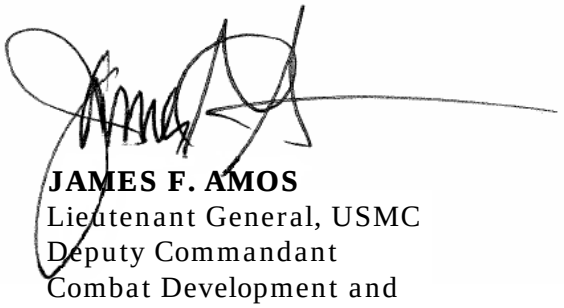

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PREFACE

1. Scope

This multiservice publication represents a significant revision to the August 2000 publication by expanding the scope from theater-based tactical sites to installations found in both foreign and domestic locations. It is designed for military commanders and personnel responsible for chemical, biological, radiological and nuclear (CBRN) defense planning at installations in the continental United States (CONUS) and outside the continental United States (OCONUS). The term "installation" will be used henceforth when referring to fixed sites, ports, and airfields in this manual. These personnel may be responsible for deliberate or crisis planning and may be required to execute plans across the conflict spectrum. This publication provides doctrine and tactics, techniques, and procedures (TTP) for planning, resourcing, and executing CBRN defense for various military installations as part of an overarching installation protection program. The chapters present a doctrinal foundation, and specific TTP are included in the appendixes. This manual incorporates the joint doctrine elements for combating weapons of mass destruction (WMD), to include counterproliferation passive defense functions of CBRN sense, shape, shield, and sustain. It also ties installation CBRN defense to consequence management doctrine. During military operations, this publication is subordinate to current joint publications (JPs) addressing this topic. This document incorporates the following key guidance:

- National Response Plan (NRP).
- National Incident Management System (NIMS).
- Department of Defense Instruction (DODI) 6055.1.
- DODI 2000.16.
- DODI 2000.18.
- DODI 6055.06.
- Department of Defense (DOD) 6055.06-M.
- Department of Defense Directive (DODD) 2000.12.
- Service-specific policies addressing emergency response to CBRN incidents at CONUS installations, such as—
  - AF 10-25-series manuals.
  - Chief of Naval Operations Instruction (OPNAVINST) 3440.17.
  - OPNAVINST 5100.23G.

2. Purpose

The purpose of this publication is to provide commanders, staffs, key agencies, and service members with a key reference for planning and conducting CBRN defense of installations. It provides the tools for CBRN defense personnel to implement active and passive CBRN sense, shape, shield, and sustain measures. It also serves as a key source

document for refining existing service publications, training support packages, training center exercises, and service school curricula.

3. Application

This publication is designed for use at the operational and tactical levels but has implications at the strategic level in the implementation of CBRN defense on installations supporting strategic objectives. The document will support command staff planning in preparing for and conducting CBRN defense operations on installations as a part of an overarching installation protection program. The manual also provides guidance to installation leaders and personnel for implementing CBRN defense.

4. Implementation Plan

Participating service command offices of primary responsibility (OPRs) will review this publication, validate the information, and reference and incorporate it into service and command manuals, regulations, and curricula as follows:

Army. The United States Army (USA) will incorporate the procedures in this publication in USA training and doctrinal publications as directed by the Commander, United States Army Training and Doctrine Command (TRADOC). Distribution is according to Department of the Army (DA) Form 12-99-R, *Initial Distribution (ID) Requirements for Publications*.

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5. User Information

a. The United States Army Chemical School (USACMLS) developed this publication with the joint participation of the approving service commands.

b. We encourage recommended changes for improving this publication. Please reference changes by specific page and paragraph, and provide a rationale for each recommendation. Send comments and recommendations directly to—

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

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6 November 2007

Multiservice Tactics, Techniques, and Procedures for Installation CBRN Defense

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EXECUTIVE SUMMARY

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Chapter I
Introduction

Chapter I describes the various types of installations and introduces the implication of their location with respect to the limits and extents of the installation commander's authority. It presents complementary tactical CBRN doctrine as it relates to installation CBRN defense. It also introduces the factors of the operational environment that impact installation CBRN defense operations. The four major phases representing the installation CBRN defense framework are presented—planning, preparation, response, and recovery. Finally, it describes the relationship of installation CBRN defense procedures to those involving CBRN consequence management, for which doctrine and TTP are found in the complementary tactical CBRN doctrine.

Chapter II
Installation CBRN Defense Planning

Chapter II presents installation command and staff responsibilities in planning for CBRN defense. It focuses on critical operational environment assessments—threat, physical, information, and political. Vulnerability assessment is related to the planning phase, as well as the importance of implementing commander's guidance—specifically with regard to risk management. Finally, it promotes the implementation of the military decision-making process as a method by which to integrate CBRN defense planning into the overall installation protection plan.

Chapter III
Installation CBRN Defense Preparation

Chapter III extends the planning phase by describing the implementation of vulnerability reduction measures consistent with command guidance through the vulnerability assessment process. It describes coordination measures, task organization, equipping, training and certification, exercises, readiness evaluations, and the use of threat advisory systems.

Chapter IV

Installation CBRN Response

Chapter IV discusses immediate response measures following a CBRN incident. It describes various responder classifications and how they are employed in a tiered response fashion. Organization and implementation of various responder operations centers are presented, as well as forms of emergency communications—warning and reporting to notify.

Chapter V

Installation CBRN Recovery

Chapter V presents installation commander recovery operations within the extent of his own available organic and precoordinated resources. It emphasizes immediate response and mitigation measures to restore critical functions to their preincident capability. It presents methods to mitigate the effects of a CBRN incident and describes the transition to plan revision upon reassessment and lessons learned. Finally, it describes the relationship between installation CBRN defense recovery and CBRN consequence management operations as differentiated by the capabilities immediately at the installation commander's disposal without external coordination.

Appendices

Appendix A provides TTP for installation CBRN defense planning, to include a plan format, a sample plan, and technical reach-back assets.

Appendix B describes the emergency support functions from the National Response Plan in greater detail.

Appendix C provides detailed checklists for all phases of installation CBRN defense operations.

Appendix D discusses force health protection measures in greater detail than presented in the chapter material.

Appendix E addresses collective protection and in-place protection TTPs and their integration into the installation CBRN defense plan.

Appendix F introduces the installation commander's option to exercise split MOPP and installation zoning as TTP to maintain critical installation functions after a CBRN incident.

Appendix G describes the unique relationships, requirements, and responsibilities inherent when integrating civilians and contract personnel into the CBRN defense plan.

Appendix H provides detailed responsibilities for installation commanders, staffs, responders, tenant units, and transient units.

Appendix I addresses contamination control for airlift operations.

Appendix J describes installation capability packages as a method to prioritize the installation CBRN defense capabilities in a tiered approach based on mission.

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Chapter I

INTRODUCTION

1. Fundamentals of Installation CBRN Defense

This chapter establishes the environment for CBRN defense of installations. It provides the terms of reference for CBRN defense of installations and illustrates the integration of complementary tactical CBRN passive defense MTTP relate to this manual. The chapter also addresses the operational environment for installations and the installation CBRN defense framework – plan, prepare, respond, and recover. Finally, it describes the transition potential from installation CBRN defense operations to CBRN consequence management operations.

a. Terms of Reference.

(1) Installation. JP 1-02 defines an installation as a grouping of facilities, located in the same vicinity, which supports particular functions. Examples of installations include, but are not limited to the following:

- Posts or bases.
- Ports (sea or air).
- Airfields.
- Base clusters.
- Staging areas.
- Command and control nodes.
- Logistics nodes.
- Other facilities or fixed sites to include expeditionary bases and camps.

(2) Geographic Locations. US military installations support operational forces in domestic and foreign environments. The particular location of the installation is critical in determining the laws or regulations that must be applied, as well as the level of military authority the installation commander may have in determining response actions – to include the level of personal protection for the response force.

(a) Domestic Locations. DODI 2000.21 lists the following as domestic locations: the continental United States (CONUS), Alaska, Hawaii, the Commonwealth of Puerto Rico, the US Virgin Islands, US territories of Guam, American Samoa, Jarvis Island, the Commonwealth of the Northern Marianas Islands, the Freely Associated States of Micronesia, the Republic of Palau, the Republic of the Marshall Islands, and the US possessions of Wake Island, Midway Island, Johnson Island, Baker Island, Howland Island, Palmyra Atoll, and Kingman Reef.

(b) Foreign Locations. DODI 2000.21 defines foreign locations as any geographic area not reflected in the definition of domestic.

b. Complementary Tactical CBRN Doctrine.

(1) *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Defense Operations* provides principles for the

installation CBRN staff on their roles and responsibilities in executing installation CBRN defense.

(2) *Multiservice Tactics, Techniques, and Procedures for CBRN Contamination Avoidance* addresses the principle of contamination avoidance and describes the CBRN Warning and Reporting System (CBRNWRS) which may be integrated into installation CBRN defense actions.

(3) *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* describes methods for protecting personnel and equipment from CBRN hazards in a tactical environment, and levels of personal protection.

(4) *Multiservice Tactics, Techniques, and Procedures for CBRN Decontamination* provides decontamination guidance for personnel, equipment, facilities, and terrain.

(5) *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Vulnerability Assessment* provides planning guidance for conducting vulnerability assessments that may be applicable to installation CBRN defense planning and preparation phases.

(6) *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Reconnaissance* provides principles and tactics, techniques, and procedures (TTP) for detection and identification that may be applied to the installation CBRN protection plan.

(7) *Multiservice Tactics, Techniques, and Procedures for Biological Surveillance* provides principles and TTP for biological surveillance operations that may be applied to the installation CBRN defense plan.

(8) *Health Service Support in a Chemical, biological, radiological, and nuclear Environment* provides supporting medical doctrine, to include patient decontamination procedures.

2. Operational Environment

a. Threat. There are common threat considerations that apply to military installations during military operations ranging from stable peace to full scale war. Installations will likely receive intelligence summaries that provide information on the local or regional threat. CBRN threats and hazards can range from adversarial actions to man-made incidents/accidents to natural disasters. A key component of the threat assessment is to determine whether a deliberate capability exists with a corresponding intent.

b. Physical Environment. Key components of the physical environment include terrain and weather and their effects as well as the geographic framework that influences the installation commander's plan and ability to exercise his authority.

(1) Terrain. Topography, soil and surface type, and vegetation directly impact CBRN operations on installations.

(2) Weather. Precipitation, winds, air stability, humidity, and temperature are among those factors that also impact CBRN operations on installations.

(3) Geographic Framework. The commander's plan for installation CBRN defense must encompass the assigned area of operations (AO) and the associated areas of interest. The area of operations establishes the boundaries within which the installation commander operates, and controls response actions. The area of interest represents the environment external to the AO for which the installation commander must maintain situational awareness, and may include surrounding communities and civil authorities with whom the installation commander establishes agreements for coordinated notification, response, and recovery operations.

c. Information Environment. The installation commander strives to achieve situational awareness and understanding by integrating technology with capabilities of military and civil authorities. The installation commander determines sources of information – to include intelligence – and appropriate stakeholders for information sharing. Further, a CBRN incident may require notification procedures among military commanders and civil authorities that must be based on common agreements and pre-established methods.

d. Political Environment. Military authority, jurisdictional authority, established agreements, and local customs are among the important political, legal, and cultural issues for the installation commander. Installation commanders must consider cultural, ethnic, and religious attitudes and behaviors that may impact operations.

3. Installation CBRN Defense Framework

a. Installation Defense. Installation defense consists of four phases that can occur sequentially or simultaneously as shown in Figure I-1 and described in Chapters II through V. The four phases are:

- Planning.
- Preparation.
- Response.
- Recovery.

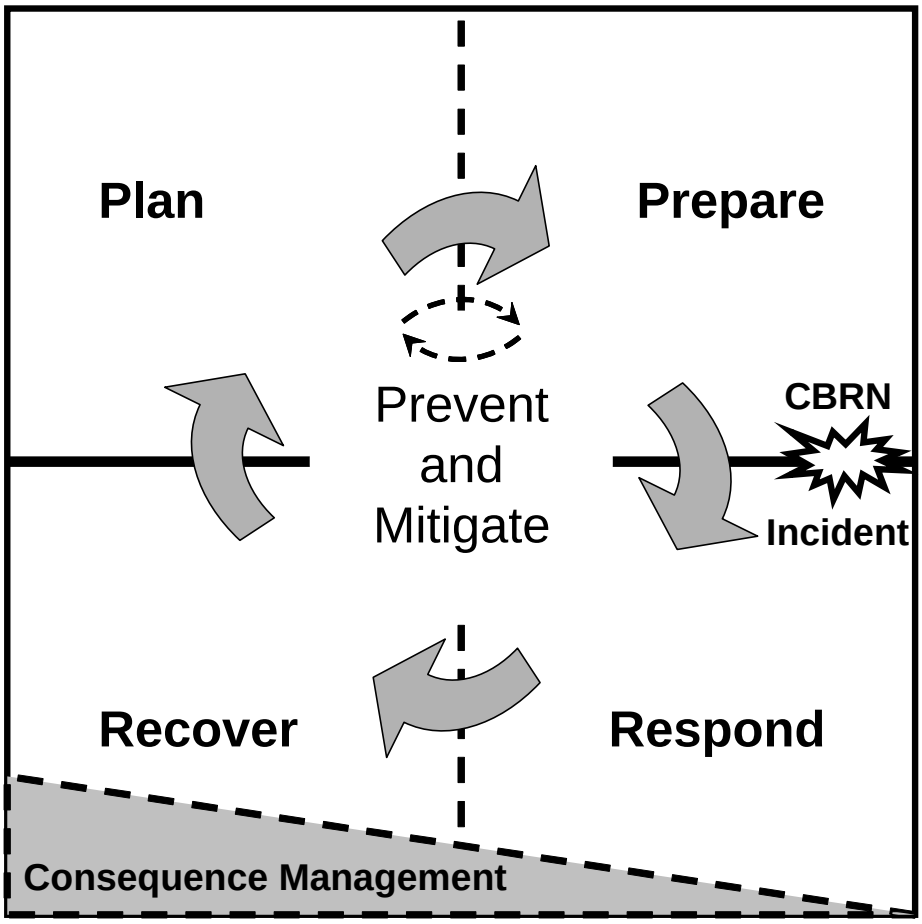

Figure I-1. Installation CBRN Defense Framework

(1) Planning Phase. Planning is based upon assessment of the operational environment and enables commanders to identify minimum standards for training, organizing, equipping, and protecting resources. The plan drives preparation and facilitates response and recovery operations. Chapter II discusses the planning phase in more detail.

(2) Preparation Phase. Preparation implements the approved plan and relevant agreements to increase readiness through training, exercises, and certification. Vulnerability reduction measures are also initiated to support prevention and mitigation functions. Chapter III discusses the preparation phase in more detail.

(3) Response Phase. The response phase addresses the short-term, direct effects of an incident. Response measures include those actions taken to save lives, protect property, and establish control. Chapter IV discusses the response phase in more detail.

(4) Recovery Phase. The focus of recovery is on restoring mission capability and essential public and government services interrupted by the CBRN incident. The recovery phase also includes completing the mitigation of the immediate hazard. Chapter V discusses the recovery phase in more detail.

b. Consequence Management. The CBRN aspects of consequence management include those actions taken to manage and mitigate the effects of a CBRN attack or incident and restore essential operations and services by employing capabilities beyond those immediately available to the installation. The *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Aspects of Consequence Management* provides more information for CBRN incidents in which the installation commander's immediate and coordinated response resources are insufficient to complete response and recovery operations.

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Chapter II

INSTALLATION CBRN DEFENSE PLANNING

1. Overview

Planning for installation CBRN defense and the development of the installation CBRN defense plan begins with the assessment of the operational environment and installation command and staff assessments (see Figure II-1). Application of the military decision making process (MDMP) matures these assessments and estimates into a published installation CBRN defense plan. The installation CBRN defense plan requires continuous assessment over time to integrate changes in threat, vulnerability assessments, capabilities, and command relationships with civil authorities. The installation CBRN defense plan may be a stand-alone document or an addendum to an existing installation protection plan (IPP). The installation commander and his staff have the primary responsibility for developing the installation CBRN defense plan.

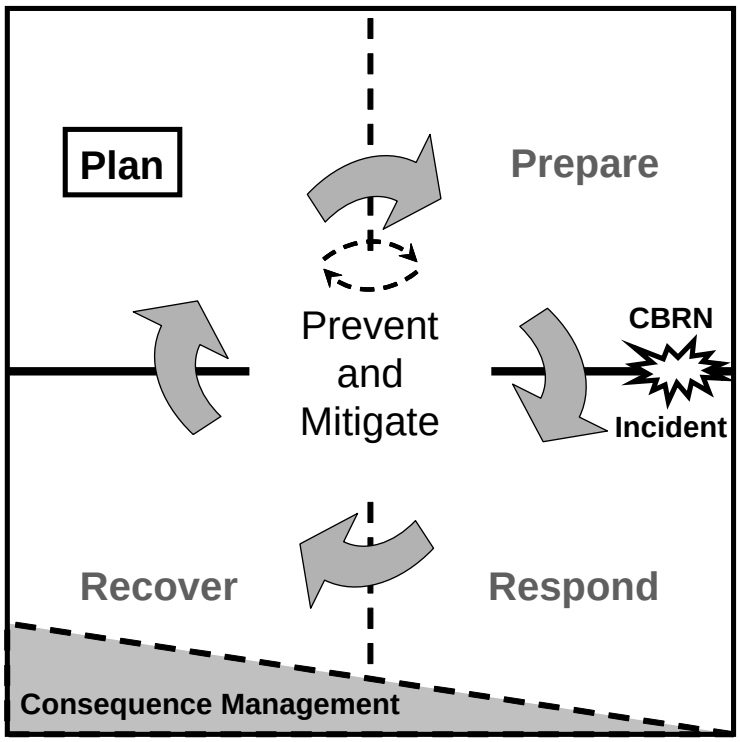

Figure II-1. Planning Phase for Installation CBRN Defense

2. Installation Command and Staff Responsibilities

The commander and his staff are responsible for establishing the installation's CBRN defense plan, to include threat assessment, vulnerability analysis and reduction, emergency response, and immediate recovery operations across the range of possible CBRN hazards. A summary of tasks for installation commanders and staffs is provided below. A comprehensive listing of responsibilities, to include CBRN responders and tenant/transient units is provided in Appendix H.

a. The responsibilities of all installation commanders include:

- Develop a comprehensive installation CBRN defense plan.
- Train, rehearse, and exercise the CBRN defense plan.
- Allocate installation activities and resources to support the installation CBRN defense plan.
- Continuously assess and improve the installation CBRN defense plan.
- Inspect and assess the installation CBRN readiness and preparedness.
- Execute applicable MOAs or MOUs with activities that will provide mutual aid.

b. Installation commanders in a foreign operational environment include the following additional requirements:

- Integrate installation and host nation emergency response capabilities to support the sustainment of installation capabilities and readiness.
- Coordinate installation CBRN defense measures with the respective area or base cluster commanders, if applicable.
- Identify interoperability requirements and mitigation measures to help meet emergency response requirements.
- Monitor or support negotiations and/or implementing MOUs and/or MOAs with host nations (HNs), as necessary, to support HN CBRN defense and emergency response assistance.
- Coordinate training opportunities with supporting HN resources that will periodically exercise existing MOUs and/or MOAs.
- Review and approve exercise scenarios for CBRN exercises that are consistent with the regional threat assessment.

c. The responsibilities of the installation staff include:

- Develop, implement, and supervise the organizational CBRN defense program.
- Coordinate with the appropriate command intelligence section(s) to provide a continuous CBRN threat assessment.
- Conduct CBRN vulnerability assessment.
- Develop, coordinate and assess CBRN defense training execution.
- Integrating installation CBRN emergency response initiatives into installation resource planning.
- Coordinate with local authorities to ensure that the installation CBRN emergency response plan is integrated with local emergency response plans.
- Identify roles for tenant and transient units.
- Ensure that point, standoff, and medical CBRN reconnaissance and surveillance assets support the common operational picture.
- Coordinate with supporting medical and non-medical laboratory(s) for sample analysis.
- Conduct inspections to determine the current status of the installation's capabilities, to include strengths and weaknesses in the installation CBRN defense program.

- Conduct periodic reviews of the installation CBRN defense program for improvement and to ensure compliance with the standards.

3. Operational Environment Assessment

a. Threat Assessment. CBRN hazards can range from adversarial actions to man-made incidents/accidents to natural disasters. A key component of the threat assessment requires determining whether a deliberate adversarial capability exists. Many of the hazards however, may originate from technological or natural CBRN disasters. For information on the characteristics of CB agents see *Potential Military Chemical/Biological Agents and Compounds*. For information on radioactive materials of military significance and their effects, see *Multiservice Tactics, Techniques, and Procedures for CBRN Contamination Avoidance*. For information on TIM, see the Emergency Response Guide (current edition).

(1) Assess Adversarial Capability. The installation staff examines available intelligence on potential CBRN hazards, weapons systems, storage facilities, production facilities, research and development programs, and delivery methods. Upon assessing capability, an installation can also conduct direct observation to obtain information on the industrialization in their AO, or from intelligence on other hazards within the area of interest. For example, a vast array of TIM facilities may exist in the AO or near the AO. Further, assessment of an adversary's capability involves several factors that require more specifics, and may generate an intelligence collection plan. Risk is measured when conducting assessments of the possibility of third-power intervention with CBRN weapons on the behalf of an adversary, or the weaponization of a chemical, biological, or radiological (CBR) weapon could occur on a very rudimentary basis with an improvised dissemination device (e.g., handheld spray devices).

(a) Assess Adversarial Opportunity. The installation assesses factors such as when, where, and how an adversary may use a CBRN or TIM weapon or agent. Planners consider the weather, the terrain, the installation boundaries, the defensive posture, and other factors to assess when or where an adversary may attack. Assessment of how an adversary will attack considers the objective (e.g., attacks against critical infrastructure) and subjective factors (e.g., an adversary could attack with no other purpose than to prove his capability or to cause terror). Further, an adversary may attack using overt systems (such as aircraft, cruise missiles, unmanned aircraft systems/remotely piloted vehicles, tactical ballistic missiles and small boats) against operational-level targets. However, covert releases, including various aerosol-releasing devices, contamination of drinking water, radiological dispersal devices (RDD), or improvised explosive devices (IEDs) with CBR components.

(b) Assess Adversarial Intent. Installations conduct an assessment of an adversary's intent to use CBRN weapons or TIM. The adversary's intent may be to cause casualties, contamination, degradation or panic or demonstrate its ability to attack anywhere at anytime.

(2) Technological and Natural CBRN Disasters. Major accidents and natural disasters occur on a continuing basis and may involve CBRN agents/materials. Consequently, CBRN defense plans need to address avoidance, protection, and decontamination functions within an installation's AO, and across the area of interest.

(3) Assess Impact. Planners assess the impact of a CBRN or TIM attack or incident on the installation. Attack templates identify whether the attack is conducted on or off the installation. For example, attack scenarios could include point source attack on an installation or line source attacks upwind of the target. The source of the attack assessment may occur at the installation level using decision support tools (DSTs) or by exercising technical reach-back.

(4) Assess the Operational Environment. The operational environment may be a permissive, uncertain, or hostile environment. As a permissive environment, the military and/or law enforcement agencies (LEAs) should have control and the intent and capability to assist operations. An uncertain operational environment could be one in which the host government forces, whether opposed to or receptive to operations, do not have effective control of the territory and population in the intended AO. A hostile environment includes adversarial forces that have a degree of control, the intent, and the capability to effectively oppose or react to operations.

(5) Assess Previous Incidents/Past Use. The installation planner must think "outside of the box." The planner collects information on previous uses of CBRN agents or weapons, and also obtains information on TIM incidents or accidents that may have occurred in the AO. The planner's assessment also considers how an installation may be affected by TIM release (as a secondary hazard from a naturally occurring incident such as hurricanes or floods). As assessments on previous use of TIM are conducted, hazards may occur based on the manufacture, storage, distribution, or transport of those materials in close proximity to installations. Deliberate or inadvertent release significantly increases hazards to the indigenous population and U.S. forces. Given the prevalence of TIM throughout the world, civilian and DOD planners use area studies and integrate intelligence estimates to assess possible TIM hazards. TIM should be recognized for the singular hazards they pose and the potential risks that may result from an explosion or a fire. Some representative sources of TIM hazards are shown in Table II-1.

Table II-1. Potential TIM Hazard Sources

- Agricultural—includes insecticides, herbicides, and fertilizers.
- Industrial—chemical and radiological materials used in the manufacturing processes, fuel, or in cleaning.
- Production and research—CB materials produced or stored in a facility.
- Radiological—nuclear power plants, medical facilities, and laboratories nondestructive testing facilities and food/mail irradiator facilities.

(6) CBRN Threat Levels. CBRN threat levels serve as a marker for establishing the level of CBRN threat posed by an adversary. CBRN threat levels should be in accordance with Standardization Agreement (STANAG) 2984. Table II-2 provides an overview of the CBRN threat levels.

Table II-2. CBRN Threat Levels

CBRN Threat Level	Description
Zero	The belligerents have no known offensive CBRN capability.
Low	The belligerents have an offensive CBRN capability, but there is no indication of its use in the immediate future.
Medium	Nuclear, biological, or chemical weapons have been used in another AO or there are strong indications that the belligerents will use these weapons in the immediate future.
High	Nuclear, biological, or chemical attack is imminent.

b. Physical Environment.

(1) The physical environment includes terrain, weather, and the commander's geographic framework. Terrain and weather effects must be continuously assessed so that decision support tools and predictive modeling capabilities are integrated with environmental conditions.

(2) Installation Zoning and Split-MOPP. An installation commander may elect to establish zones for the installation to provide flexibility and maximize mission performance in the event that a CBRN incident occurs. Further MOPP analysis may be expanded to include split-MOPP operations within the established installation protection zones at installations where MOPP is the personnel protection level employed. Appendix F provides more detail on establishing zones and integrating split-MOPP for an installation CBRN defense plan. Some installation zoning principles are shown in Table II-3.

Table II-3. Installation Zoning Principles

- Consider the location of key functions (e.g., work centers) within different zone sectors.
  - A very large zone may be practical if only a few functions are located in the area.
  - One large work area with a clearly defined boundary is a good candidate for a zone.
- Consider physical features.
  - Zone boundaries should be clearly identifiable.
  - Group similar surface areas into the zone.
- Consider the terrain. If part of an installation has a significantly higher elevation, consider aligning a zone boundary along an identifiable contour interval.
- Consider accessibility (such as the presence of clear access routes).
- Consider responsibility assignments for the area.
- Consider the consistency with ground defense sectors. The CBRN zones should be the same as the ground defense sectors.

c. Information Environment. The installation commander and staff maintain constant situational awareness and updates to the common operational picture. Intelligence assessments must be integrated between military and civil sources. The commander must consider requirements and existing agreements for information sharing among the civil-military stakeholders. Assumptions may be required, but the plan must call for means by which to confirm or deny these assumptions through information collection efforts. In addition, the information environment may include predictive modeling, meteorological data, data from an integrated detection network, and readiness reporting.

d. Political Environment.

(1) Jurisdictional Authority. The installation commander must establish the level of authority in exercising military operations on or off the installation. This level of authority will conform to public law, local agreements, or military regulations and standards. Assessment of the political environment must include the level(s) of authority that the military commander may exercise when implementing the installation CBRN defense plan. One example of this includes the appropriate level of personal protection equipment required by CBRN responders. Operations in support of civil authorities may be subject to public law or host nation agreements, where contingency operations may give the commander more flexibility to apply risk management and subsequently lower the level of protection.

(2) Agreements. Installations range in size and complexity. Small or simple installations may not have organic emergency response resources of large or complex ones. The installation commander evaluates essential functions during the development of the CBRN defense plan. The national response plan (NRP) provides a list of emergency support functions (ESFs) that the installation commander may implement – or may be required to implement – into the overall CBRN defense plan. Appendix B provides the details for the 15 ESFs from the NRP. The commander assesses the requirement and then determines if he has the requisite capability. Capability shortfalls may be overcome by agreements with civil authority capabilities. Inversely, the commander may be required to support civil authorities by providing capabilities to fill gaps that are identified for civil response.

(3) The Domestic Environment.

(a) National Incident Management System (NIMS). The national structure for incident management establishes a clear progression of coordination and communication from the local level to regional and national HQ levels. For the military installation, use of NIMS supports the interoperability between installations and with the civilian community. Use of NIMS is an important interoperability tool for the different service components that will operate together on an installation. Chapter IV discusses the implementation of the NIMS with respect to the ICS. The NIMS process supports the following:

- Integrating incident-related prevention, mitigation, response, and recovery activities.
- Improving the coordination and integration within the military AO and with federal, state, local private-sector, and nongovernmental organization (NGO) partners.
- Increasing the efficient use of resources needed for more effective incident management.
- Improving situational awareness (SA) within the installation.
- Facilitating requests for assistance (RFAs) for support that exceeds an installation's response capability.
- Providing linkage to technical reach-back capabilities.

(b) National Response Plan (NRP). The NRP is an all-discipline, all-hazards plan that establishes a single, comprehensive framework for the management of domestic incidents. Because the purpose of the NRP is to establish a comprehensive, national, all-hazards approach to domestic incident management, most installation response plans must be consistent with the guidance found in the NRP. The services or combatant commands should consider standardized procedures and provide a common emergency planning template that would also facilitate interoperability among the different components serving on an installation.

(c) Title 10 USC Support. Installation title 10 USC assets may receive tasks to provide support to validated RFAs. Installation resources capable of providing the necessary response are then sent to the incident area, normally OPCON to the Defense Coordinating Officer (DCO) or JTF (during a CBRN incident), to perform the tasks. National Guard (NG) units may be mobilized and employed under installation 10 USC units; however, they will be subject to employment according to applicable command or support relationships established by the governing headquarters (such as COCOM or OPCON).

(d) Title 32 USC Support. Installation-based NG units are primarily a state response force. They will normally remain under the control of the governor, through the adjutant general (TAG). In this capacity their missions are conducted under the state emergency management framework. However, installation NG units assigned to an installation could operate (on or off the installation) within its state of assignment or within another state under one of four potential authorities:

- **Immediate Response.** Under DOD Directive (DODD) 3025.1, imminently serious conditions resulting from any civil emergency or attack may require immediate action by military commanders or responsible officials of other DOD agencies to save lives, prevent human suffering, or mitigate great property damage.
- **Interstate Compacts.** Several interstate compacts provide for mutual aid between states for disaster response. These agreements occur between the states; however, the states may provide DOD with information on their interstate agreements. The most comprehensive of these, the Emergency Management Assistance Compact (EMAC), provides habitual relationships that facilitates emergency planning. NG support under EMAC occurs in state active-duty status. Therefore, the EMAC is not applicable to NG units performing their mission exclusively in 32 USC or 10 USC status.
- **State-to-State MOAs.** In an emergency situation, the governor or other appropriate officials, according to state laws, could rapidly develop a simple MOA addressing NG support. This process is commonly used by states that are not EMAC signatories but wish to receive or provide support on a case-by-case basis.
- **Mobilization Under 10 USC.** A reserve component unit could be called to active duty under the mobilization statutes (voluntary mobilization, presidential selective reserve call-up, partial mobilization, or full mobilization) and then be employed as

directed by the President of the United States (POTUS) or his designee (see *Joint Tactics, Techniques, and Procedures for Manpower Mobilization and Demobilization Operations: Reserve Component (RC) Callup* for more detailed information). The decision to mobilize NG units is the responsibility of the POTUS based on a recommendation from the Secretary of Defense (SecDef). If a NG unit is mobilized, the unit will be assigned to the C2 element of the designated, supported combatant commander.

(e) Regulatory and Legal Considerations. Military units supporting an installation emergency response will always be under the C2 of military authorities, yet they may work in support of the civil authorities assisting the installation. The legal considerations for CBRN response on an installation are complex, varying by the location, the area affected, and the type of incident. Commanders should consult their legal staff at the beginning of the planning process to incorporate, understand, and train staffs and responders on the limitations that a particular installation might face. Commanders, in conjunction with their judge advocate general (JAG), should assess the preparedness of the legal staff and ensure the legal staff receives appropriate training to deal with terrorist CBRN attacks. Representative legal planning considerations that influence response activities include some of the following considerations:

- The use of chemical and biological weapons within the US is a federal offense under 18 USC Section 175 (biological weapons possession); and Section 229 (CB weapons use as a WMD).
- The commander's inherent authority to maintain law and order on a military installation coupled with the mandatory responsibility to protect personnel, facilities, and material also guides response to a prewar incident in the United States, its territories or possessions, the District of Columbia, and other places subject to U.S. jurisdiction. In these cases, the Federal Bureau of Investigation (FBI) has investigative jurisdiction and should be immediately notified when an incident occurs. Incident/attack locations should be treated as crime scenes, insofar as reasonably possible, and the normal chain of custody procedures should be followed for any item that is removed from the incident scene. These authorities, responsibilities, and actions are according to DODD 5525.5 and implemented by AR 500-51.
- Should the effects of an installation terrorist CBRN incident or attack extend to surrounding civilian communities; or when the need to save lives, prevent human suffering, or mitigate great property damage caused by an off-installation event, the installation may respond immediately, if requested. The responding commander will report to higher HQ as soon as possible following the initiation of the response effort.
- Requests for an immediate response (i.e., any form of immediate action taken by a DoD Component or military commander to save lives, prevent human suffering, or mitigate great property damage under imminently serious conditions) may be made to any

Component or Command. The DoD Components that receive verbal requests from civil authorities for support in an emergency may initiate informal planning and, if required, immediately respond as authorized in DoD Directive 3025.1. Civil authorities shall be informed that verbal requests for support in an emergency must be followed by a written request. (according to DODD 3025.15).

(4) The Foreign Environment.

(a) Host Nation (HN) Agreements and Treaties. During peace operations, HN agreements and treaties may direct U.S. forces to provide assistance during CBRN events. In these instances, installation assets may receive taskings to provide support to a HN response. U.S. forces will remain under U.S. command.

(b) Status of Forces Agreement (SOFA). A SOFA between the United States Government and a HN generally governs the authorized activities of U.S. personnel and the installation. Most SOFAs, such as North Atlantic Treaty Organization (NATO) SOFA Article VII, paragraph 10, and Japan SOFA Article XVII, paragraph 10, state that the U.S. has the right to police and maintain order on the premises it occupies. Most SOFAs require U.S. military authorities to assist the HN with incident investigation and turn over all evidence to the HN authorities when requested. Commanders must also identify legal authorities and requirements before conducting joint training exercises with HN elements.

(c) Sovereignty Issues. During peace operations, U.S. forces must be aware that HN laws may require the sharing of information, to include samples of CBRN agents during a CBRN event. The release of information or material is likely a strategic or operational-level war issue, and the installation commander will respond according to the command guidance furnished.

(d) Stability Operations. HN agreements and treaties and SOFA will likely remain in affect during contingency operations in countries where U.S. forces are based and operate, unless the agreement or treaty is with a country in which the contingency operations are directed. In this case, the United States will determine its responsibilities under U.S. and international laws. During contingency operations, issues of sovereignty during a CBRN event will be addressed by applicable contingency plans, orders, and rules of engagement.

4. Vulnerability Assessment

a. Developing the installation CBRN defense plan requires comparison of the threat with installation vulnerabilities in order to determine efforts to mitigate CBRN effects before an incident occurs. Vulnerability assessment also includes integration of commander's guidance through a risk management process in order to prioritize vulnerability reduction measure implementation. Vulnerability assessment during the planning phase begins with the identification of the hazards and an analysis of each (see Figure II-2). Vulnerability assessment during the planning phase continues by integrating the specific threat assessment with analysis of specific vulnerabilities and identification of potential vulnerability reduction measures. The endstate during the planning phase is typically a staff estimate (running estimate for U.S. Army) and recommendation to the commander on the priorities for vulnerability reduction. The

commander must provide risk management guidance that determines which vulnerability reduction measures to implement, and which to abandon or postpone. The assessment is an appraisal of the strengths and weaknesses of the installation functions as compared to the threat. Chapter III provides additional detail for the completion of the vulnerability assessment process.

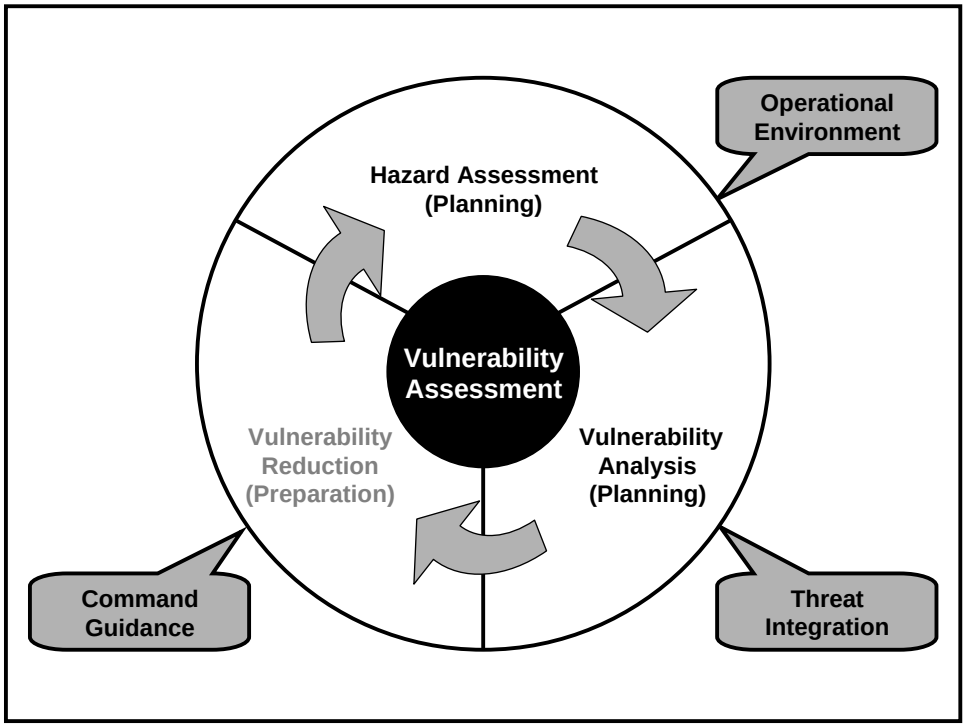

Figure II-2. Vulnerability Assessment During the Planning Phase

b. Analyzing key assets and critical infrastructure should be conducted during the CBRN VA, when possible. Automated tools at the installation or available via technical reach-back capability can be used to perform the following functions:

- Conduct a blast effects analysis from explosive munitions and devices.
- Conduct a weapons effects analysis from CBRN and/or TIM.
- Conduct the analyses and plot the effects on a map or image to identify the key assets and critical infrastructure (e.g., people, structures, equipment) that could be affected by a CBRN or TIM event. If possible, include the projected fatalities, contamination, casualties and impact on installation readiness.
- Coordinate with and provide results of the analyses to the commander and his staff.
- Use the results to help produce courses of action during the estimation process.

c. An accurate CBRN VA is the groundwork for the strategy. The strategy is used to develop and execute vulnerability reduction measures. The *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear*

Vulnerability Assessment provides further guidance for conducting a CBRN VA and developing CBRN vulnerability reduction measures.

5. Commander's Guidance

Commander's guidance includes the vision, intent, key tasks, mission, priorities, and overall strategy – to include acceptable risk.

a. The commander and staff develop a vision and corresponding strategy that defines successful installation readiness and preparedness by balancing threat, vulnerability, and risk. This guidance gives definition to the installation's mission, the commander's intent, and the goal of the installation CBRN defense program. It orients on the future and provides a clear, concise statement of the precise picture of installation readiness and preparedness. It could include comments about healthy relationships with the local community or effective security measures to deter a prospective terrorist from using CBRN weapons. In short, the vision gives the commander's view of the end product of the installation's CBRN readiness and preparedness. The vision includes identified key tasks or critical functions that support the installation's ability to accomplish its assigned mission. It also takes into account the inherent responsibility to protect people and property.

b. Strategy Development. Using assessments as the starting point and the vision as the end point, the commander and staff develop the CBRN defense strategy. The strategy provides the method by which installation CBRN readiness and preparedness will be achieved. The strategy is the road map for building an installation CBRN defense program over a period of time. The strategy should—

- Focus on the threat.
- Identify the phases or steps to reach the vision.
- Assign objectives and vulnerability reduction measures to each phase.
- Identify the main and supporting vulnerability reduction measures in each phase.
- Assign priorities for resources in each phase.
- Identify indicators of success to monitor the progress of the strategy.
- Assess readiness to respond to CBRN events.

6. Plan Development

a. Military Decision Making Process (MDMP).

(1) The responsibility for CBRN defense decisions, plans, and supervision rests on the commander. For many years, commanders have used a planning process known as the military decision making process (MDMP) to determine the best course of action (COA) to be written into a plan. Figure II-3, provides an overview of this process.

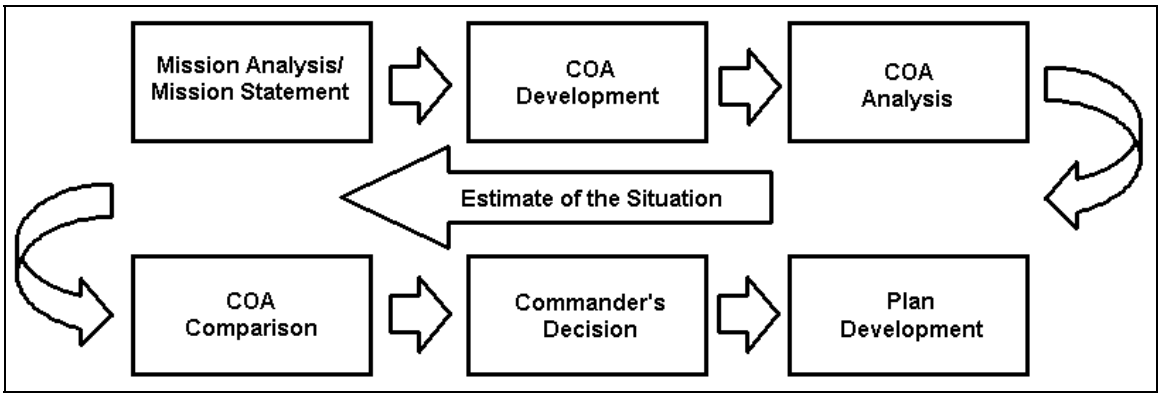

Figure II-3. Military Decision-Making Process

(2) The process provides a framework for determining a plan of action for emergency response. The installation uses these process steps to develop an effective solution to the challenge of preparing a viable and comprehensive emergency management plan. The estimate process is used by each service component and provides a common framework for an installation that may have components from the different services.

(3) Once the COAs have been developed and analyzed, the commander compares and considers multiple COAs that support the installation CBRN defense mission. In a CBRN plan, the recommended COA encompasses preparation, response, and recovery phases. Variables will include modifications to the plan dependent on type of CBRN or TIM hazard involved in the incident. For example, the COA that outlines the response to a biological or radiological attack may differ from the COA for a chemical attack.

(4) Installation CBRN defense plans are living documents. The installation CBRN defense plan should be planned, staffed, exercised, and approved by the installation commander. Once approved, the installation CBRN defense program transitions from the planning to the preparation phase. As preparation proceeds, assessments are continuously updated and may require re-visiting and revising the installation CBRN defense plan. Chapter III discusses the installation CBRN defense preparation phase in more detail.

b. Resource Allocation and Prioritization. As part of the development of the CBRN defense plan, resources identified by the installation are allocated to prioritized requirements. The prioritization is made by the commander with input from his staff.

c. Key Elements of the Plan. The plan should address each ESF role and how they are integrated and synchronized with respect to response and recovery.

(1) C2. The installation CBRN defense plan is aligned with the installation C2 architecture. The use of ICS, or tactical equivalent, provides a means of maintaining SA during CBRN incident responses.

(2) Functional Organization. An example of the management organization used by ICS is discussed in Chapter IV. This organization is mandated by the NIMS, but provides a potential model for commander's operating tactical or expeditionary bases for which the NIMS is not required.

(3) Organization by ESF. Appendix B describes the ESFs, and Chapter IV discusses a method of organization response measures that relates the functional components of the ICS to the ESFs as a method by which to ensure that the plan accounts for these critical tasks. The installation commander may have a complex staff to incorporate this functional organization, or may assign multiple functions to singular staff elements.

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Chapter III

INSTALLATION CBRN DEFENSE PREPARATION

1. Overview

a. CBRN passive defense operations focus on protecting assets, sustaining mission operations, and minimizing casualties during and after an attack or incident. An installation updates its CBRN defense plan to reduce the exposure of the installation to a CBRN attack and to minimize the impact of such an attack on operations should it occur. During the preparation phase, installation personnel systematically initiate vulnerability reduction measures that have been incorporated into their latest installation CBRN defense plan. The previous chapter discussed development of the installation CBRN defense plan. This chapter focuses on instituting that plan.

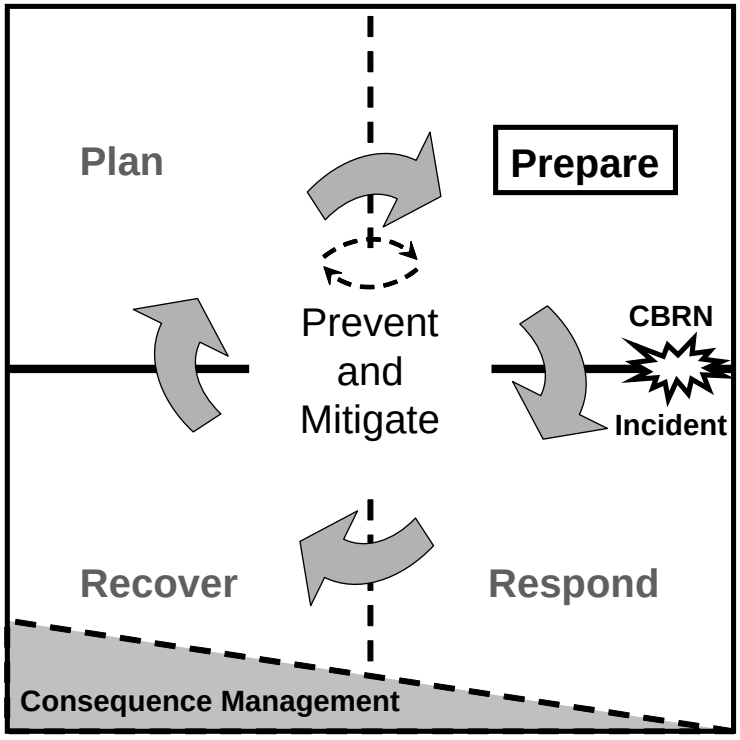

Figure III-1. Preparation Phase for Installation CBRN Defense

b. Although, as was explained previously in this document, the development of a robust CBRN defense capability on an installation is a continuous, cyclic process (see Figure III-1), there is a logical order to preparing and upgrading an installation's CBRN defense posture. Equipment must be installed before it can be trained on. Exercises evaluate the success of previous education and training. Capabilities cannot be reassessed until they've been exercised and tested. The material within this chapter

is presented in a logical order for preparing and improving an installation's CBRN defenses:

- Acquisition of necessary CBRN defense equipment.
- Preparation of facilities.
- Education and training.
- Coordination, monitoring, and reporting requirements.
- Conducting response exercises.
- Reassessing capabilities and identifying remaining vulnerabilities.

2. Acquisition of Necessary CBRN Defense Equipment

a. Specialized CBRN Defense Equipment. The nature of CBRN agents is such that highly specialized equipment is necessary to detect and defend against attacks involving weapons containing these substances. The use of CBRN sensors, detectors, surveillance, and alarms is therefore a vital part of the defense strategy in preparing an installation CBRN defense plan. The first step to properly preparing an installation against a possible CBRN attack is the acquisition, installation, and employment of this specialized equipment necessary for effective detection and defense against such an attack. DOD has recently instituted a "tiered approach" to installation CBRN defense. This approach, using a graduated scale of employment based on priority, was designed to be flexible enough to accommodate the needs of specific installations while standardizing major system elements to provide cost effective solutions. Appendix J provides further details about this DOD tiered program for manning, training, and equipping the response force for CBRN defense.

b. JPM Guardian. On May 6, 2003, the Joint Project Manager-Guardian (JPM-Guardian) was formally established "to provide Department of Defense (DoD) prioritized installations with an integrated chemical, biological, radiological, nuclear (CBRN) protection and response capability to reduce casualties, maintain critical operations, contain contamination and effectively restore critical operations". JPM-Guardian was established to "provide an effective CBRN protection, detection, identification and warning system for installation protection, ensure integration of CBRN network with existing Command, Control, Communications, Intelligence (C3I) capabilities to provide effective information management, provide a capability that will allow for rapid restoration of critical installation operations, protect DoD civilians, contractors and other persons working or living on U.S. Military installations and facilities, and equip and support Coalition Support Teams, Installation Support Teams, Regional Response Teams and recon/decon teams." JPM Guardian should be contacted for guidance on what specific equipment should be installed on a particular DOD installation.

c. CBRN Detection and Surveillance. The TTPs outlined in the Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Reconnaissance and Multiservice Tactics, Techniques, and Procedures for Biological Surveillance provide guidance on establishing installation CBRN detection and

surveillance arrays. The operational use of the detector arrays should be linked to the CBRN threat level. As the CBRN threat level increases, CBRN detection and surveillance operations should also increase, as follows:

(1) At CBRN Threat Level Zero, the IC and staff may choose not to activate or emplace CBRN detection and surveillance devices.

(2) At CBRN Threat Level Low, an IC and staff may choose to position detection and surveillance devices as appropriate but not activate them.

(3) At CBRN Threat Level Medium, an installation could operate detection and surveillance devices on a periodic basis when conditions were favorable for a CBRN attack. For example, an available JBPDS could be run in early evening, when conditions were favorable for a biological attack.

(4) At CBRN Threat Level High, all available CBRN detection and surveillance devices appropriate for the threat could be operated. Care must be taken to insure power supplies and expendables are available for such operations. An installation CBRN detector array is only one source of information that supports the installation common operational picture (COP). Other critical information input (such as medical surveillance [MEDSURV], individual reports of unusual activity, or individuals experiencing chemical agent symptoms) also contributes to the installation CBRN SA.

3. Preparation of Facilities

a. Critical Facilities. Facilities identified as 'critical' in the installation's emergency response plan are integrated into the CBRN defense plan. Installation activities improve installation preparedness by fortifying shelters, protecting vital equipment (e.g., covers, sheltering), and improving or preparing individual fighting positions. These actions and prior planning can protect against conventional and some CBRN weapons effects.

b. Special CBRN Defense Measures. Specific CBRN-defensive measures needed to protect facilities are identified in the VA process. See the Multiservice Tactics, Techniques, and Procedures for CBRN Contamination Avoidance and the Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection for additional information on measures that can be taken for the preparation of facilities. Representative measures that can be taken include the following:

(1) Provide safeguards in and around building HVAC systems to minimize the possibility of a covert CBRN attack.

(2) Identify alternate sources of electricity or water for key facilities

(3) Identify alternate facilities to house key functions should the primary facility become uninhabitable.

(4) Verify the serviceability of facility collective protection (COLPRO).

(5) Prepare SIP kits for buildings that may not have COLPRO.

(6) Identify shelter management personnel and provide provisions for shelter locations.

(7) Provide effective communications to facility occupants.

4. Education and Training

a. Education. Installation incident management organizations and personnel at all levels must be appropriately educated to effectively provide the installation with an all-hazards incident management capability. CBRN incident response operations need to be adequately emphasized in applicable programs of instruction. For those units without experience in civilian exercises on a local, state, regional, or national basis, limited opportunities exist to incorporate lessons learned from these events into the training environment such as institutional education, simulations, and exercises. All personnel should be educated in basic CBRN awareness and personnel assigned special responsibilities receive more specific operational instruction. Numerous courses and training opportunities are available from various government and private sources. A compendium of these resources is available from FEMA. Some of the educational opportunities available are in the following areas:

(1) General Awareness.

(a) Force Protection (FP)/Anti-Terrorism (AT). One component of combating terrorism includes defensive measures against terrorist attacks. All personnel train on the fundamentals necessary to defend installations, units, and individuals against terrorist attacks. AT is a FP measure and is the responsibility of commanders at every level.

(b) Overview of CBRN Counter-Terrorism (CT) Operations. Based on the roles and responsibilities of the audience, this may include the fundamentals of the NRP, the ICS, and service-specific issues.

(2) Specific Operational Education for Command and Staff.

- The role of the action agency and Lead Federal Agencies (LFAs).
- Legal authorities, constraints, and limitations.
- Logistics and support requirements, including fiscal reimbursement issues.
- C2 structures.

NOTE: An example of this type of training is the DOD Emergency Preparedness Course. This course prepares Emergency Preparedness Liaison Officers (EPLOs), and staffs to plan and execute joint military operations that support civil authorities responding to domestic emergencies and disasters. The US Forces Command offers the course eight times a year at the FEMA Mount Weather Emergency Assistance Center, Berryville, Virginia, and conducts mobile training teams within the USPACOM's and the US Southern Command's AORs each year. This training is authorized by DODD 3025.1.

b. Training. Installations must train to perform individual and collective CBRN defense tasks as units and joint forces. Licensing and certification standards vary based on geographical location and equipment available on the installation. Commanders should ensure that all operators are fully trained to complete their assigned missions. Training must be provided to HN military and civilian work forces and US contractors on the installation.

(1) Training Tasks. The installation conducts training on key UJTL and applicable service training tasks that support preparedness, response and recovery measures. Using the UJTL as a baseline helps to support a common framework for training.

(2) Training Conditions. The installation uses a simulated CBRN or TIM environment as a condition for selected training events. The degradation experienced by operating in the appropriate protective posture improves installation preparedness. This type of training provides installation leadership with an assessment of the effectiveness of vulnerability reduction measures.

(3) General Installation Training Considerations. CBRN awareness training is available for every military service member, DOD civilian, contractor, appropriate family member, and local national hired by the DOD—regardless of rank. These personnel should be aware of CBRN actions and effects, the need to maintain vigilance for possible CBRN actions, and methods for employment of CBRN TTP. To ensure an effective response, an installation-wide, cross-functional training program should be implemented. Thorough training is required to prepare individuals and emergency teams to safely and efficiently respond to a terrorist CBRN attack at their required level of proficiency.

(4) Incident Management Training.

(a) General Considerations. Installations must have personnel trained to respond to a CBRN attack. All persons participating in the response to CBRN incidents should be trained to competently perform within the incident command system (ICS)/unified command (UC) structure.

(b) Minimum Requirements. The following are minimum requirements for installation incident management personnel:

(b) Minimum Requirements. The following are minimum requirements for installation incident management personnel:

- Entry level first responders (including firefighters, police officers, emergency medical services providers, public works on-scene personnel, public health on-scene personnel and other emergency responders) and other emergency personnel will require an introduction to the basic components of the Incident Command System. (FEMA IS-700: NIMS, An Introduction ICS-100: Introduction to ICS or equivalent)

- First line supervisors, single resource leaders, lead dispatchers, field supervisors, company officers and entry level positions (trainees) on Incident Management Teams and other emergency personnel will require a higher level of Incident Command System training. (IS-700, ICS-100 and ICS-200: Basic ICS or its equivalent)

- Middle management, strike team leaders, task force leaders, unit leaders, division/group supervisors, branch directors and Multi-Agency Coordination System/Emergency Operations Center staff require higher level Incident Command System training. (IS-700, IS-800 NRP, ICS-100, ICS-200 and in FY07, ICS-300)

- Command and general staff, agency administrators, department heads, emergency managers, area commanders and Multi-Agency Coordination System/Emergency Operations Center managers also require higher level Incident Command System training. (IS-700, IS-800, ICS-100, ICS-200 and in FY07, ICS-300 and ICS-400)

- All personnel providing support to civil authorities must be knowledgeable of the NRP prior to providing support by completing the DHS, FEMA, Emergency Management Institute IS-800 course “National Response Plan and Introduction”.

(5) First Responder Training.

(a) General Considerations.

- All local responding personnel must be trained at least to the first responder operations level.

- Persons functioning in more complex roles, such as IC, HAZMAT team leader, or technician, must have completed

additional training appropriate for the functions to be performed.

- Training competencies for each of these roles and functions are fully defined in the above standards and regulations.

- The competency and training requirements for local responders and technical experts are defined in 29 CFR 1910.120, the Occupational Safety and Health Administration (OSHA), National Fire Protection Association (NFPA) Standards 471, 472, and 473, and in reference resources, such as Department of Transportation (DOT)/Federal Emergency Management Agency (FEMA) Guidelines for Public Sector Hazardous Materials Training.

- Requirements for all roles include training necessary to perform correctly within the ICS/UC structure at an incident.

(b) Specific Requirements. Personnel who participate, or are expected to participate, in emergency response shall complete the following training:

- First responder awareness-level training is for personnel who are likely to witness or discover an incident, and who have been trained to initiate an emergency response sequence. This training should be provided for all installation personnel. These personnel would take no further action beyond notifying the authorities of the hazard.

- First responder operations-level training is required of personnel who respond to incidents as part of the initial response to the site for the purpose of protecting persons, property, or the environment from effects of the hazard. This includes security guards, military police, incident response team members, emergency medical personnel, and firefighters. These personnel are trained to respond in a defensive fashion without actually trying to contain the hazard. They are required to receive at least eight hours of training and to demonstrate competency.

- HAZMAT technician-level training is provided for personnel who respond for the purpose of containing the hazard. This training is required for HAZMAT team members. They are required to receive at least 24 hours of training equal to responder operations-level training and to demonstrate additional competencies.

- HAZMAT specialist-level training should be provided for incident response team specialists who respond with and provide support to HAZMAT technicians. However, their duties require more specific knowledge of the various substances to be contained. These personnel also act as site liaison with other authorities regarding site activities. They are required to receive at least 24 hours of training equal to responder technician-level training and to demonstrate additional competencies.

- On-scene IC-level training is provided to those who are to assume control of the incident scene. They are required to receive at least 24 hours of training equal to responder operations-level training and to demonstrate additional competencies.

c. Training Evaluations.

(1) Evaluations can be either internal or external. Internal evaluations are conducted at all levels and are implemented into all training. External evaluations are usually more formal and are conducted by the next higher HQ.

(2) A critical weakness in training is the failure to evaluate each task every time it is executed. The exercise evaluation concept is based on simultaneous training and evaluation. Every training exercise provides the potential for evaluation feedback. Every evaluation is a training session. For the program to work, trainers and leaders must continually evaluate training as it is executed.

(3) External evaluations are administered at the discretion of the chain of command and are conducted to evaluate the ability to perform its critical response missions.

5. Coordination, Monitoring, and Reporting Requirements

a. Coordination.

(1) Who Needs to Coordinate? One major objective of preparedness efforts is to ensure mission integration and interoperability in response to emergent crises across functional and organizational lines, as well as between public and private organizations. Each installation must therefore make certain that the CBRN response plans of the various components, agencies and sections within that installation have been thoroughly coordinated with each other as well as with the response plans of tenant units, the plans of local, state, and federal organizations, and the plans of any Joint Task Forces, Coalition Forces or Host Nations (HN). These organizations represent a wide variety of resources, and representatives from each entity / capability should meet regularly to coordinate.

(2) Focus of Coordination Efforts. These installation, local and regional CBRN defense experts should meet to ensure that proper consideration has been placed on planning (identify threats, determine vulnerabilities, and identify required resources), training and exercises, personnel qualification and certification, equipment certification, and other preparedness requirements within and between installations and surrounding resources (civil or HN). Another focus should be to identify the range of deliberate and critical tasks and activities necessary to build, sustain, and improve the operational capability of the installation to prevent, protect against, respond to, and recover from any CBRN incident. The needs of the installation involved will dictate how frequently such coordination efforts should occur as well as how they are structured.

(3) Mutual-Aid Agreements (MAA). Mutual-aid agreements are the means for installations and local, state Federal, (HN or any other outside organization) to provide resources, facilities, services, and other required support to one another during an incident. Each installation should be party to a mutual-aid agreement (such as the Emergency Management Assistance Compact) with appropriate agencies (units/organizations) from which they expect to receive or to which they expect to provide assistance during an incident. This would normally include all neighboring or nearby organizations, as well as relevant private-sector and nongovernmental organizations. Mutual-aid agreements are also needed with private organizations, such as the American Red Cross, to facilitate the timely delivery of private assistance at the appropriate organizational level during incidents. At a minimum, mutual-aid agreements should include the following elements or provisions:

(a) Definitions of key terms used in the agreement.

(b) Roles and responsibilities of individual parties.

(c) Procedures for requesting and providing assistance.

(d) Procedures, authorities, and rules for payment, reimbursement, and allocation of costs.

(e) Notification procedures.

(f) Protocols for interoperable communications.

(g) Relationships with other agreements among organizations.

(h) Workers compensation.

(i) Treatment of liability and immunity.

(h) Recognition of qualifications and certifications.

(i) Sharing agreements, as required.

NOTE: More information and examples of MAAs can be found at Web site <http://www.nimsonline.com/download_center/index.htm#mutual>

b. Monitoring. Any analysis of an installation's CBRN defense status should include a step-by-step review of command SOPs and associated formal checklists from the functional elements on the installation (e.g., HAZMAT, law enforcement, fire, and emergency medical services). As was mentioned previously, these emergency response checklists should be analyzed to insure that maximum coordination between responding elements exists in each SOP.

c. Status Reporting. Each installation activity (including tenant units) responsible for different aspects of the CBRN defense plan (e.g., HAZMAT, law enforcement) should be tasked to periodically report their operational status to the installation operations center. This status reporting helps to ensure that the installation CBRN defense plan is updated, executable, and relevant.

6. Conducting Response Exercises

a. General Considerations. Education and training are not enough to prepare an installation. The use of realistic exercises is required to ensure that the installation can conduct operations under CBRN or TIM conditions. Aspects to consider when developing an exercise should include the following:

(1) Exercises should include participants from all emergency response functions on the installation and whenever possible, appropriate local, State, Federal, and host-nation participants.

(2) Each exercise should include realistic CBRN and TIM scenarios that the installation could face based on the current threat assessment.

(3) When appropriate, OCONUS installations should align their installation exercise and training schedule with the Combatant Commanders, host-nation, and the Department of State-related CBRN exercises.

(4) Each exercise should provide realistic master events sequence lists that exercise each element of the installation emergency response plan. Unexpected challenges (e.g., disabling key personnel and equipment) are included to assess the resiliency of the response process.

(5) HN civilians supporting installation operations may require frequent rehearsals and refresher training.

(6) Tabletop exercises can be used to provide the installation leadership and staff with opportunities to war-game multiple scenarios. Tabletop training exercises are specifically designed to train the leaders to execute the critical missions and critical collective tasks.

(7) When possible, installations should consider aligning their installation exercise and training schedules with that of the Department of Justice, the Office of Domestic Preparedness exercise and training programs as well as State and local preparedness programs to include WMD CSTs, as appropriate.

b. Exercise Design. Each exercise should be designed to evaluate specific critical missions or tasks within the overall evaluation scenario. Evaluators should make every effort to support the evaluation. By the same token, serious thought should be given to those conditions that obstruct an accurate assessment of the unit's performance. The evaluators must know the test thoroughly and precisely to implement it correctly. The use of realistic exercises is required to ensure that the installation can conduct operations under CBRN or TIM conditions.

c. Evaluator Knowledge. Each evaluator, regardless of position, must have expert knowledge of capabilities and responsibilities, communications equipment, weapons, and vehicles, and should thoroughly understand mission. Poor evaluator training may result in poor after-action or lessons-learned information. Note: The following link may be useful in preparing an evaluation staff for evaluating a CBRN exercise: http://www.training.fema.gov/EMIWeb/downloads/IS139EvalPlan.doc

d. Periodicity of Exercises. Installations should conduct annual CBRN exercises using realistic CBRN scenarios appropriate to the installation's mission and vulnerabilities to validate the concept of operations articulated in their CBRN emergency response plan. Scenarios should consider terrorism, technological accidents, and natural disasters that may result in CBRN releases and incidents. Training exercises are used to train and practice the performance of collective tasks to execute the unit's primary mission and other critical tasks.

7. Reassess Capabilities and Identify Remaining Vulnerabilities

a. The installation CBRN defense vulnerability assessment must be an almost continuous process (see Figure III-2). Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Vulnerability Assessment provides further guidance on the VA cycle. After the installation's CBRN defense plan is implemented, the installation senior staff should start scheduling periodic follow-ups to reassess these CBRN defense preparations. These periodic follow-ups help ensure that necessary resources remain properly deployed, prepared, and synchronized to successfully execute CBRN defense tasks. The timing of these recurring reassessments should not be just based strictly on time (calendar year, etc) however. Other factors such as changes in the threat or changes in unit or resource availability should also considered when scheduling installation CBRN defense reviews.

b. Pre-incident checks reverify that installation personnel and units have supplies and equipment such as the required individual protective equipment (IPE) and COLPRO equipment.

c. The measures that comprise protection actions also provide VA feedback. This feedback improves the overall installation CBRN response plan. For example, US CBRN personnel may take notice of the shortcomings of HN protective equipment (i.e., protective ponchos issued by some nations, which may be effective in protecting against a direct spray hazard but would provide little protection against regional mustard contamination on an installation).

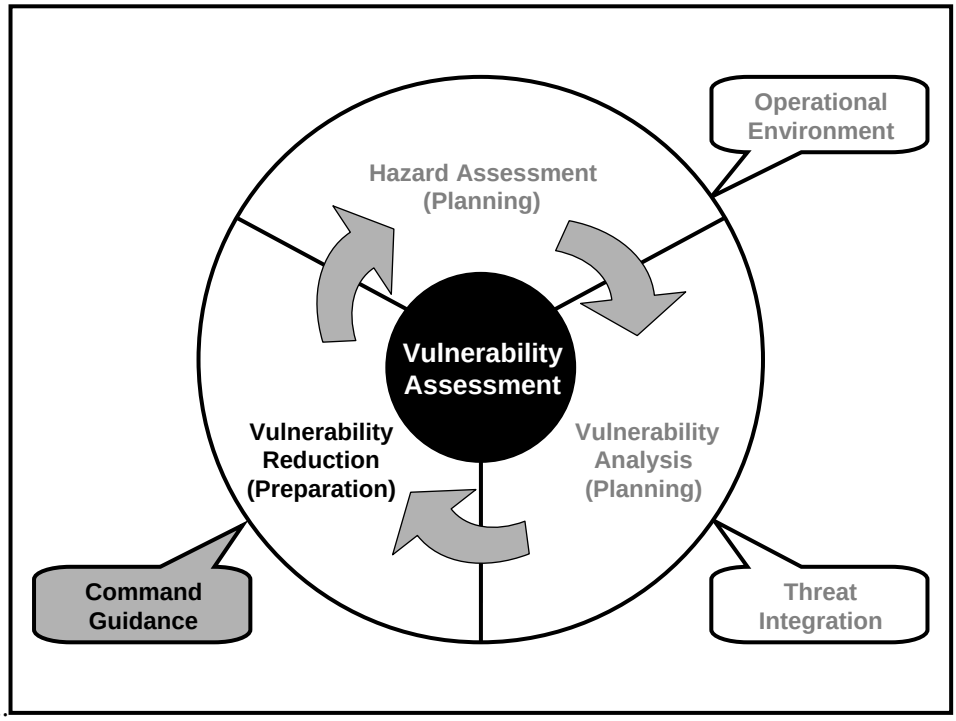

Figure III-2. Vulnerability Assessment During the Preparation Phase

8. Threat Advisory Systems

a. Installation preparedness includes tracking and disseminating information about the threat environment. The installation uses different means to track and disseminate specific threat and CBRN information. These mechanisms are considered for incorporation into the installation CBRN defense plan.

b. DOD Force Protection Conditions (FPCONs) (see Table III-1). FPCONs are graduated categories of measures or actions that ICs can use to protect personnel and assets from attack. Based on factors such as anticipated changes in the threat, changes in the installation VA status, or guidance from higher HQ, an installation may

raise or lower FPCON levels; however, subordinate commanders may raise but not lower a higher-level commander's FPCON. The installation may have access to other information sources that can provide input to what FPCON should be established. For example, ICs may use the following:

(1) The DOD Terrorist Threat Level Classification System to identify the terrorist threat in a specified overseas area. Installation planners may use this general threat level as one basis for developing FP plans; however, threat levels are estimates, with no direct relationship to specific FPCON.

(2) The NATO CBRN threat level.

(3) Other local FPCON systems (e.g., HN force protection alert systems).

(4) CBRN threat levels. CBRN threat levels serve as a marker for establishing the level of CBRN threat posed by an adversary. CBRN threat levels should be in accordance with Standardization Agreement (STANAG) 2984. FM 3-11.14 provides CBRN threat levels and protection according to STANAG 2984. Table III-2, provides an overview of the CBRN threat levels.

Table III-1. FPCONs

FPCON	Description
Normal	Local security measures designed for implementation when there is no credible threat of terrorist activity. Under these conditions, only a routine security posture designed to defeat the routine criminal threat is warranted.
Alpha	Applies when there is a general threat activity against personnel and/or installations, the nature and extent of which is unpredictable, and circumstances do not justify full implementation of FPCON BRAVO.
Bravo	Applies when an increased or more predictable threat exists.
Charlie	Applies when an incident occurs or intelligence indicates some form of threat against personnel and/or facilities is likely. Implementation of FPCON CHARLIE measures for longer than a short period will probably create hardships for personnel and affect the peacetime activities of units and personnel.
Delta	Implementation applies in immediate area where a threat attack has occurred or when intelligence indicates terrorist action in a specific location is imminent. Implementation of FPCON DELTA normally occurs for only limited periods of time over specified, localized areas.

Table III-2. CBRN Threat Levels

CBRN Threat Level	Description
Zero	The belligerents have no known offensive CBRN capability.
Low	The belligerents have an offensive CBRN capability, but there is no indication of its use in the immediate future.
Medium	Nuclear, biological, or chemical weapons have been used in another AO or there are strong indications that the belligerents will use these weapons in the immediate future.
High	Nuclear, biological, or chemical attack is imminent.

Chapter IV

INSTALLATION CBRN RESPONSE

1. Fundamentals of Installation Response

Each installation response occurs under different circumstances and with different actions. An installation response depends on whether the installation is in a peacetime or contingency environment, what organic resources are available, what resources must be obtained from off the installation, and the threats currently facing the installation. Response forces act in different ways and along their own specific time sequences. See Figure IV-1 for the Response Phase relative to the other phases of Installation CBRN defense.

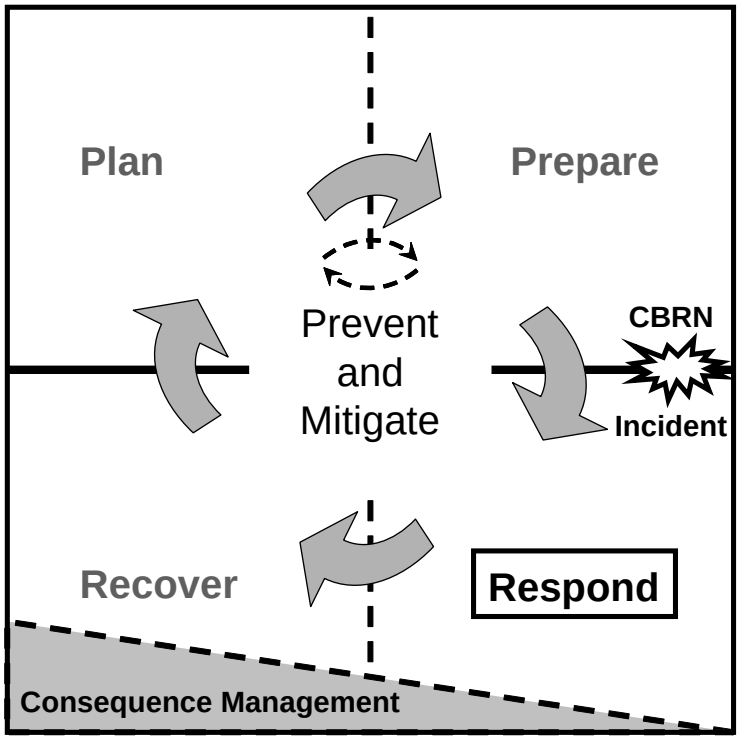

Figure IV-1. Response Phase for Installation CBRN Defense

a. Response Time Spectrum Overview.

(1) The sequence and time of response events varies depending on whether the installation is in a peacetime or contingency environment, the C2 response organization established, based upon the environment, magnitude of the CBRN event and the resources immediately available. Table IV-1 provides a general flow of events for an installation CBRN response.

Table IV-1. Flow of Events for Installation CBRN Response

Trigger	A CBRN incident occurs that requires an installation CBRN response.
First Response	Installation first responders or reconnaissance teams activate.
Initiate ICS	First responders or reconnaissance teams identify the need to establish ICS.
Command Established	Senior official or commander takes charge of the incident.
Notify	Senior official or commander notifies installation leadership. Installation notification procedures are executed. Installation notifies higher HQ as appropriate.
Secure Site/Control Access	Installation first responders or reconnaissance teams identify perimeter and senior official or commander directs perimeter enforcement.
Establish Incident Command Post	Senior official or commander determines need for and establishes, if required, an on-scene ICP; location is disseminated to higher headquarters and local officials. Incident reporting begins.
Task Organize	Available response resources are organized under senior official or commander.
Deploy Response Assets	Responders begin operations based on capability and size of the incident. Requirements for additional response assets requested to higher HQ as appropriate (through EOC).
Follow-On Response Asset Coordinated	EOC coordinates with ESF leads for additional response assets. MOAs/MOUs are executed.
Follow-On Response Assets Arrive	Follow-on response assets report to ICP and are deployed as appropriate. Senior official or commander may change hands as other response assets arrive.

(2) An example of a flow of response events on an installation during peacetime is depicted in Figure IV-2. The figure depicts an installation that must rely on its own resources and those of the theater and HN to completely respond to a CBRN incident—in this case exposure to an unknown white powdery substance in a mail room.

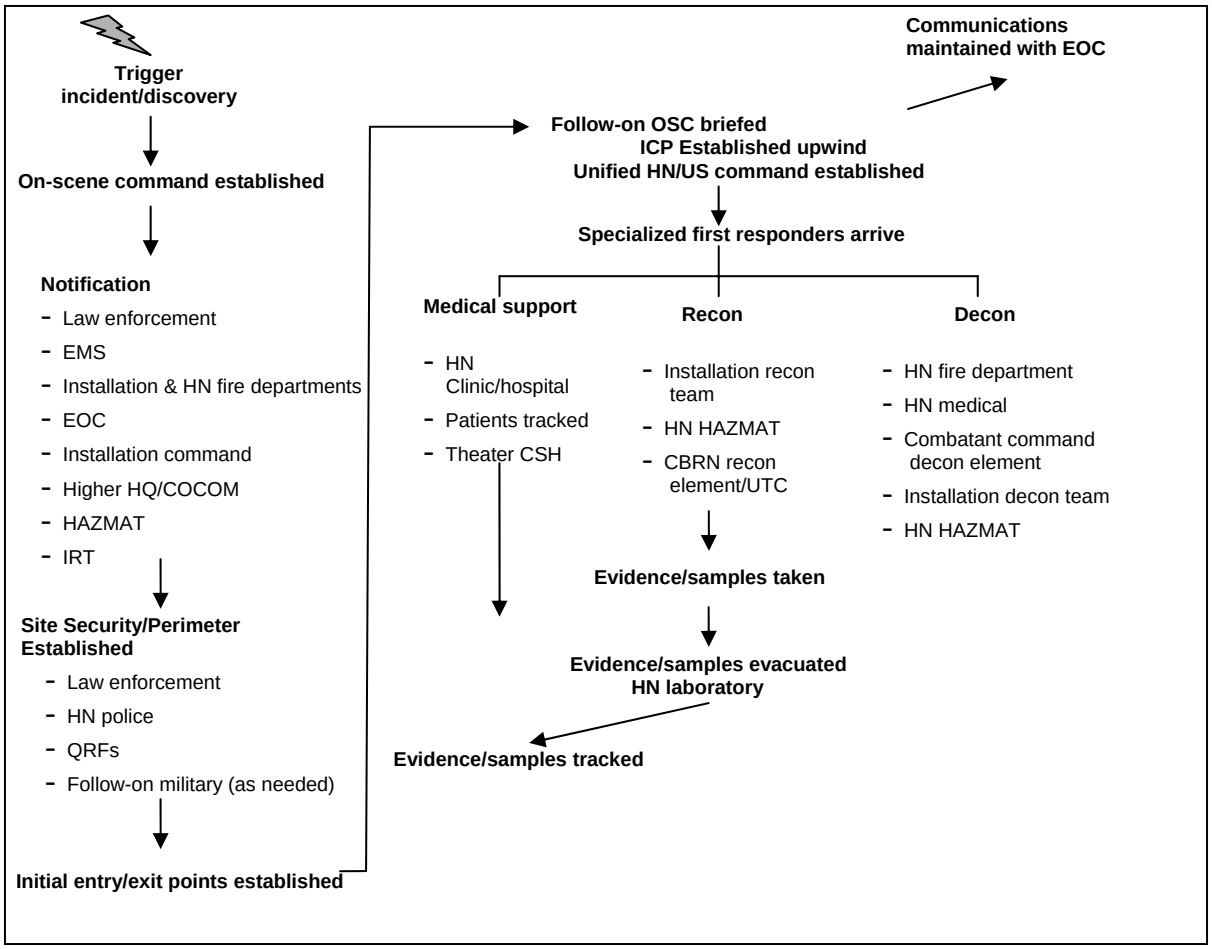

Figure IV-2. Installation Response Example

b. Triggering. In simple terms, triggering refers to the initial event or sequence of events, which causes response actions to begin. From an operational standpoint, the installation CBRN vulnerability assessment evaluates the threat and determines when, where, and how each specific threat may employ CBRN agents against the installation or the local community. In response to a CBRN threat with unknown factors, the applicable OPLAN and/or OPORD outlines the priorities of effort and trigger events (decision points) that will result in a CBRN response. Trigger events help determine when response to the incident begins. A trigger may prompt either immediate or delayed response action by responders or the general installation populace. Notification, warning and reporting will implement protective actions to prevent exposure of resources. Knowing when a trigger occurs helps shape the ability of the force to respond. Effective response will drive a more effective recovery phase, limit the severity of the CBRN event on operations, and reduce the overall number of casualties.

(1) Detector trigger events refer to the discovery by a detection device signal that a CBRN agent may be present in the environment. CBRN agent detection is limited due to the inherent design of the detector's capability to detect a variety of CBRN agents across the spectrum from specific to generic, as well as the concentration or dosage of CBRN agent detectable threshold (e.g. chemical mass spectrometer with gas-chromatography

vs. chemical detection tape). They may not indicate the presence of all CBRN agents, due to the sensitivity of the devices and the possibility of false positive and false negative readings.

(2) Weapons event triggers refer to an overt attack by a weapons system, such as theater ballistic missiles (TBMs), submunitions, or artillery that might be armed with a CBRN agent. If intelligence has indicated a CBRN-weapons capability, a weapons event in a high-threat area will likely be initially treated as an unknown agent. Detection of an attack in progress may result from an attack warning, a detector alarm, or observable weapons events. The top priority during and immediately after attack should be to determine whether it was a CBRN attack. Detection, observation, or other notices of attack prior to the occurrence of casualties trigger during-attack actions, which are initially focused on immediate resources to preserve human life.

(3) MEDSURV may be the first means of detection for a CBRN event. MEDSURV at its lowest level occurs when an individual identifies the symptoms of a CBRN attack upon an individual and sounds the alarm. At its highest level, MEDSURV could occur through the theater medical surveillance network, where epidemiology is focused on theater-wide tracking of medical symptoms.

(4) Intelligence triggers occur when a commander receives intelligence indicating a threat possesses an offensive CBRN capability, that there is unusual threat activity consistent with operational use of a CBRN agent, or that an installation may be attacked with a CBRN agent. Information and intelligence from multiple sources (e.g., the general public, military intelligence, or national intelligence institutions in the HN) can provide advance warning of a CBRN attack. Intelligence warning is the trigger event that allows a commander the best opportunity to prepare for response.

2. Tiered Response

a. Organization.

(1) DOD installations may use the ICS according to federal law to organize and respond to a CBRN event, depending upon the threat location and environment factors stated earlier. Under circumstances when ICS will be used, the senior installation first responder on the scene at a CBRN incident who has the requisite training implements the ICS (see training requirements below). The responder assumes the role of the IC and is responsible for directing and controlling resources by virtue of explicit legal, agency, or delegated authority. As the installation response further progresses, the role of IC may change hands as more qualified first responders arrive on scene or are appointed by the installation commander. At some point, a unified command may be established depending on the magnitude of the event or an incident of national significance.

(2) The IC is responsible for all aspects of the response, including developing incident objectives and managing all incident operations. The IC sets priorities and defines the ICS organization for the particular response. Even if other positions are not assigned, the IC is always designated.

(3) The IC may assign deputies, who must have the same qualifications as the person for whom they work, as they must be ready to take over IC position at any time.

(4) The organization of an ICS is built around five major management functions—command, planning, operations, logistics, and finance (see Figure IV-3). These functions are applied to any incident, whether large or small. The IC retains responsibility for these functions unless they are delegated to another individual. In some incidents or applications, only a few of the organization functional elements may be formally established or delegated to another individual. However, if there is a need to expand the organization, additional positions exist within the ICS framework to meet any need.

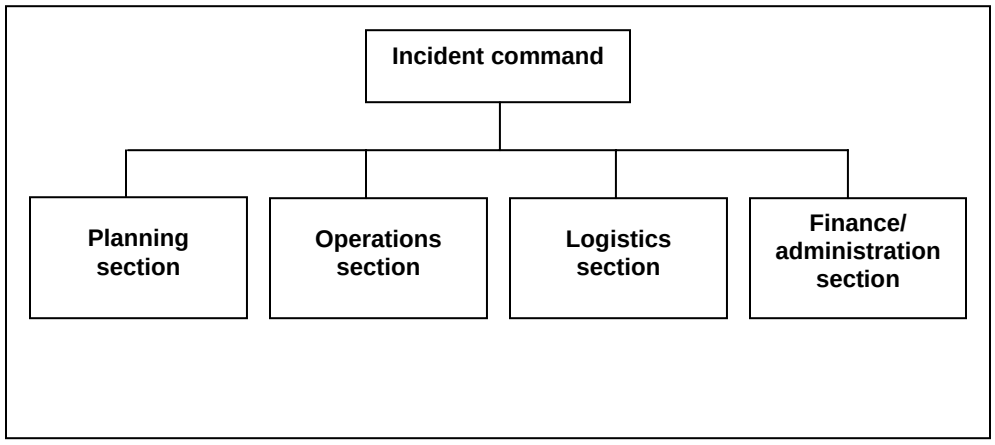

Figure IV-3. ICS Major Management Functions

(5) The modular organization of the ICS allows responders to scale their efforts and apply the parts of the ICS structure that best meet the demands of the incident. In other words, there are no hard and fast rules for when or how to expand the ICS organization. Many incidents never require the activation of planning, logistics, or finance/administration sections, while others require some or all of them to be established. A major advantage of the ICS organization is the ability to fill only those parts of the organization that are required. However, if there is a need to expand the organization, additional positions exist within the ICS framework to meet virtually any need. For example, in operations involving responders from a single jurisdiction, the ICS establishes an organization for comprehensive response management. However, when an incident involves more than one agency or jurisdiction, responders can expand the ICS framework to address a multi-jurisdictional incident.

(6) The roles of the ICS participants also vary depending on the incident and may even vary during the same incident. Staffing considerations are always based on the needs of the incident. The number of personnel and the organizational structure are totally dependent on the size and complexity of the incident. However, large-scale incidents usually require that each component or section be set up separately, with different staff members managing each section. A basic operating guideline is that the IC is responsible for all activities until command authority is transferred to another person.

(7) Another key aspect of an ICS is the development of an incident action plan (IAP). A planning cycle is typically established by the IC and planning section chief, and an IAP is then developed by the planning section for the next operational period (usually 12 or 24 hours in length) and submitted to the IC for approval. Creation of a planning cycle and development of an IAP for a particular

operational period helps to focus the available resources on the highest priorities/incident objectives. The planning cycle, if properly practiced, brings together input and identifies critical shortfalls that need to be addressed to carry out the IC's objectives for that period.

(8) Agencies must be able to use the system on a day-to-day basis for routine situations and for major emergencies.

(9) The senior emergency response official responding to an emergency shall become the OSC/IC of a site-specific ICS. All emergency responders and their communications shall be coordinated and controlled through the OSC/IC, and they shall be assisted by the senior official present for each installation functional area.

(10) The OSC/IC at an emergency response is responsible for controlling operations at the site. As more senior officers arrive (i.e., battalion chief, fire chief, senior law enforcement officials, and IC) the position is passed up the line of authority that has previously been established.

(11) The OSC/IC shall identify, to the extent possible, all CBRN agents, hazardous substances, or conditions present and shall address appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.

(12) The OSC/IC shall designate a safety officer who is knowledgeable in the operations being implemented at the emergency response site. He is specifically responsible for identifying and evaluating hazards and providing direction with respect to the safety of operations for the emergency at hand.

(13) Based on hazardous substances and conditions present, the OSC/IC shall implement appropriate emergency operations and ensure that the personal protective equipment (PPE) worn is appropriate for the hazards expected to be encountered.

(14) Responders who are engaged in CBRN defense and emergency response that are exposed to hazardous substances of unknown quantities shall wear a positive-pressure self-contained breathing apparatus (SCBA). They will continue to wear SCBA until the IC or designated safety officer determines a decreased level of respiratory protection will not result in hazardous exposure.

(15) The OSC/IC shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards. Personnel will be limited to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.

(16) When the safety officer determines that activities involve an imminently dangerous condition, he shall have the authority to alter, suspend, or terminate those activities. The safety officer shall immediately inform the OSC/IC of any actions needed to correct these hazards at the emergency scene.

(17) After emergency operations have terminated, OSC/IC shall implement appropriate decontamination procedures.

(18) There are two functional centers on the installation during a CBRN incident. They are the incident command post (ICP) and the emergency

operations center (EOC). The ICP is responsible for on-scene response activities, while the EOC is responsible for the entire installation-wide response to the event. During an incident, the EOC provides overall C2 (on behalf of the installation commander) of a CBRN incident. In this role, the EOC functions as an ICS liaison coordinating support for the IC/ICP in all functional areas and follow-on elements (FOE) (see Figure IV-4). The EOC controls all functional-area response and installation support elements so that taskings or requests from the incident site are supported and keeps higher HQ informed.

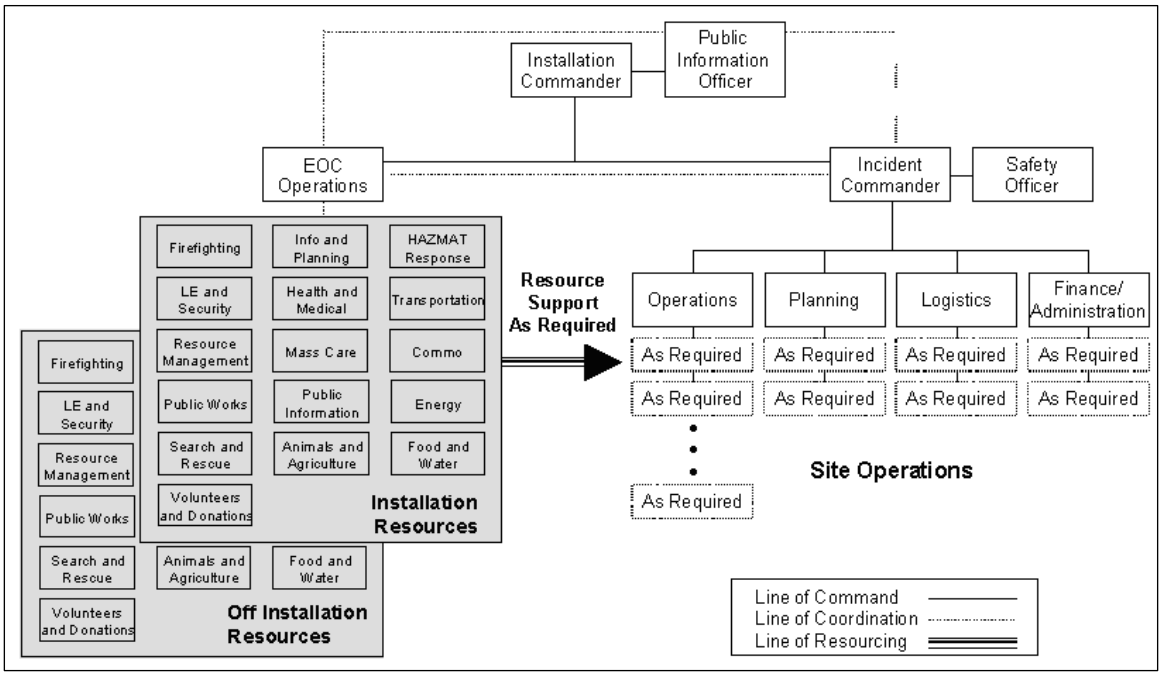

Figure IV-4. Installation Incident Command System

b. Individual Response/Actions. Individual response occurs when individuals respond to a CBRN attack by taking appropriate protective actions. The basic response begins with the individual identifying a potential CBRN hazard, donning a protective mask, and sounding an alarm. Individual response may be furthered by donning protective clothing and performing immediate decontamination, self aid, and buddy aid, if required. Further individual response actions are described in Appendix C.

c. Collective Response/Actions. Collective actions are coordinated actions in which groups of people respond to achieve a collective goal. An example would be when a unit conducts decontamination of its personnel and equipment after a CBRN attack. Tenant and transient units should be prepared to execute collective actions to mitigate CBRN effects on themselves and to support common installation CBRN responses. Further collective response actions are described in Appendix C.

d. First Response. First response is conducted by local and nongovernmental police, fire, and emergency personnel who are responsible for the protection and preservation of life, property, evidence, and the environment. They include emergency

response providers and emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) who provide immediate support services during prevention, response, and recovery operations. First responders may include personnel from federal, state, local, tribal, or nongovernmental organizations (NGOs). In its most basic form, first responders are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. In its more advanced form, first responders are trained to operational or technical levels as presented in Chapter III. Additional first responder actions are described in Appendix C.

e. Emergency Response. Emergency response occurs when responders from outside the immediate release area deploy to an occurrence which resulted in, or is likely to result in an uncontrolled release of a hazardous substance. Responses to releases of hazardous substances where there is no potential safety or health hazard are not considered to be emergency responses.

f. Installation Response. When a CBRN incident is detected, trained installation personnel initiate the ICS and establish an ICP for on-site response. The ICP is the tactical-level, on-scene incident command and management organization, typically located at or in the immediate vicinity of the incident site. The installation EOC can serve as the operational-level command post where resources are coordinated, command and staff decisions are made, and reporting to higher echelons of command outside of the installation occurs. An alternate EOC site is recommended in the event that the installation EOC is within the hot zone or otherwise inaccessible during an incident.

g. External Response. The magnitude of a CBRN attack may quickly overwhelm the ability of an installation to effectively respond. When this occurs, the installation must be prepared to reach out to obtain external support. The external response assets that an installation has coordinated for through MOAs/MOUs should be listed in the CBRN defense plan. This includes assets available through higher commands. Appendix B provides a list of reach-back asset points of contact (POCs) that may provide assistance. Theater-level assets may also be utilized during such an incident. For example, a theater CBRN defense company could be identified in theater concept plans (CONPLANs) to provide assistance. The time it takes to get such external support on-site is critical and must be a primary consideration when planning for such use. Some support will take days to obtain and may no longer be needed once it is available. For example, a unit may be able to provide mass casualty decontamination and processing but may not be able to arrive for a few days. By the time the unit arrives, the casualty processing may well be complete. Time can be a critical factor in handling CBRN patients and their decontamination. External response assets located near the installation are very valuable in that they have the ability to arrive on scene quickly.

3. Emergency Support Functions and Roles

ESFs are used to organize and provide support to the installation CBRN response. This ESF structure can be applied to the installation and its staff. Specific functional personnel should be assigned to lead/manage specific ESF functions. These designated roles are referred to as “ESF managers”. Appendix B provides the ESFs and

some of the ESF manager's roles during a CBRN response. See *Multiservice TTP for CBRN Consequence Management* for additional, more in-depth information. The following are ESF designated for installations:

No. 1 Transportation
No. 2 Communications
No. 3 Public works and engineering
No. 4 Firefighting
No. 5 Emergency management
No. 6 Mass care, housing, and human services
No. 7 Resource Support
No. 8 Public health and medical services
No. 9 Urban search and rescue
No. 10 Oil and HAZMAT response
No. 11 Agriculture and natural resources
No. 12 Energy
No. 13 Public safety and security
No. 14 Long-term community recovery and mitigation
No. 15 External affairs

4. Emergency Communications (Warning and Reporting)

Warning and reporting of an incident occurs at various levels (i.e., individual, collective, and installation levels).

a. Individual. Initial warning that an incident has occurred comes from an individual level to save the lives of those potentially affected or warn those at risk of exposure. The individual may yell, "Gas, Gas, Gas!" and give the appropriate hand and arm signals. Individuals may also report incidents by calling 911 or sending an CBRN1 message.

b. Collective. SOPs at tenant or transient unit level should include how the unit warns of and reports CBRN incidents. The CBRNWRS (see *Multiservice Tactics, Techniques, and Procedures for CBRN Contamination Avoidance*) is normally used by military units to pass CBRN warning and reporting messages. The unit also disseminates a change in its MOPP level to appropriately protect its members. This in itself is a warning (a transient unit commander orders the unit into MOPP4 via internal communications methods).

c. Installation. Installations warn of a CBRN incident through various methods. Methods such as the use of sirens, flags, public address systems, and signs should be described in the installation CBRN defense plan and disseminated to all that occupy the installation (either tenant or transient). The installation may also have a requirement to pass reports of any CBRN incidents to its higher HQ. Tables IV-2 and IV-3 provide additional guidance for standardized alarm signals for the U.S. and overseas.

Table IV-2. Standardized Alarm Signals for the US and its Territories and Possessions

Warning Or Condition	Signal	Meaning	Required Actions
Attack	3- to 5-minute wavering tone on sirens or other devices.	Attack is imminent or in progress or the arrival of nuclear fallout is imminent.	Proceed immediately to designated shelters or take other appropriate actions. Listen for additional instructions.
Warning	3 to 5 minutes of short blasts from horns, whistles, or other devices.		
Peacetime Emergency Warning	3- to 5-minute steady tone on sirens or long steady blasts on horns, whistles, or similar devices.	Peacetime disaster threat exists. Potential or confirmed hazard to public health, safety, or property.	Tune in to local radio, television, or cable stations for emergency information. Listen to public address systems for additional instructions. Be prepared to evacuate or to take immediate shelter or other appropriate protective actions.
All Clear	Declared verbally by local official agencies.	Emergency terminated.	Resume normal operations or initiate recovery, if applicable.

Table IV-3. Standardized Alarm Signals for OCONUS Bases and Stations Subject to CBRN Attacks

Alarm Condition	If You:	This Indicates	General Actions
Green	Hear: Alarm "green" See: Green flag	Attack is not probable.	• Don MOPP0 or as directed.[1, 2] • Perform normal wartime operations. • Resume operations. • Continue recovery operations.
Yellow	Hear: Alarm "yellow" See: Yellow flag	Attack is probable in less than 30 minutes.	• Don MOPP2 or as directed.[1] • Protect and cover assets. • Go to protective shelters or seek the best protection with overhead cover.[3]
Red	Hear: Alarm "red", or a siren (wavering tone) See: Red flag	Attack by air or missile is imminent or in progress.	• Seek immediate protection with overhead cover.[3] • Don MOPP4 or as directed.[1] • Report observed attacks.
	Hear: Ground attack or a bugle (call-to-arms) See: Red flag	Attack by ground force is imminent or in progress.	• Take immediate cover.[2, 3] • Don MOPP4 or as directed.[1] • Defend self and position. • Report activities.
Black	Hear: Alarm "black" or a siren (steady tone) See: Black flag	Attack is over, and CBRN contamination and/or UXO hazards are suspected or present.	• Don MOPP4 or as directed. [1, 2] • Perform self-aid/buddy care. • Remain under overhead cover or within shelter until directed otherwise.

[1]Wear field gear and personal body armor (if issued) when outdoors or when directed.
[2]This alarm condition may be applied to an entire installation or assigned to one or more defense sectors or zones.
[3]Commanders may direct continuation of mission-essential tasks or functions at increased risk.

5. Common Operational Picture (COP)

a. During the response phase, a COP is established based upon plans and preparations and is invaluable for providing the installation commander and his staff with a quick, timely, usable, precise, and reliable view of the status of a CBRN incident. During the response phase, the CBRN COP must be capable of supporting all aspects of the response operations (e.g., hazard locations, evacuation or shelter-in-place requirements and locations, unit CBRN capabilities, unit exposure status, and updated CBRN risk assessments) to the extent possible. A key benefit of a good COP system is that it allows the installation to quickly relay to its tenant and transient units this identical, graphic display of relevant information for SA. The same information can be relayed to local U.S. embassy officials, and it is feasible that embassy personnel could then relay specific details on to host nation's representatives as appropriate. Obviously, to be effective, this COP must therefore be constantly updated through the recovery

phase while transitioning to mission sustainment operations. Updates to this COP are made from detection, identification, contamination marking, and warning and reporting information.

b. Examples of information that the installation's operations staff will want to keep updated include:

- Current IPE requirements for all affected areas.
- Split – MOPP operations (if applicable).
- Survey team input on status of all areas of contamination.
- Potential of secondary explosive devices and the likelihood of blast injury and destruction with any CBRN event, especially radiological/nuclear.
- Status of immediate level decontamination.

6. Transition to Recovery and Immediate Mitigation

a. There exists a fine yet unclear line of when response ends and recovery operations begin. Indeed, recovery often begins while response operations are still in progress. There is a need to clearly distinguish between response and recovery, especially for planning purposes. Additionally, there is most often a "handover" of site responsibilities and authorities when transitioning from the response phase to recovery. For example, a responding Fire Chief may hand over control of the scene to crime investigators, incident investigation teams, or senior officials from on or off the installation.

b. Immediate mitigation actions occur during response operations to reduce the harmful effects of the incident and to decrease risks of damage. For example, a hazardous material response team may dike or divert the contamination from a leaking device or container in order to keep the contaminated contents from affecting populated areas. Each situation presents its own unique opportunities to immediately implement mitigation actions.

Chapter V

INSTALLATION CBRN RECOVERY

1. Fundamentals of Recovery

a. This chapter will focus on the initial recovery operations carried out by installation personnel using installation equipment. These actions can be compared to what NIMS refers to as short term "emergency" recovery activities that set the stage for successful long term recovery. Installation personnel and equipment will likely be the only resources immediately available to commence initial recovery operations. CBRN Consequence Management (CM) operations, in comparison, typically require additional personnel, equipment and capabilities beyond those readily available on the installation. See Figure V-1.

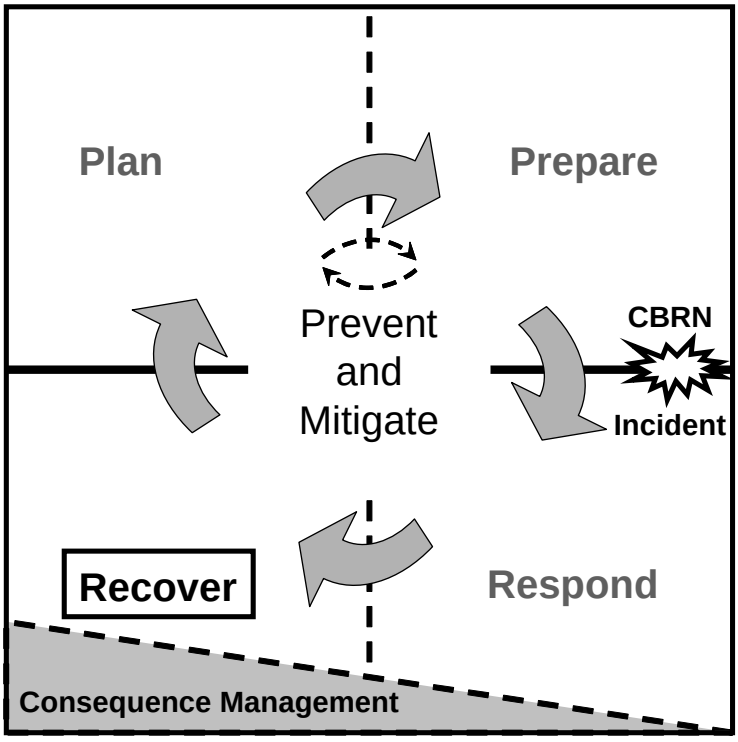

Figure V-1. Recovery Phase for Installation CBRN Defense

b. The DoD Dictionary of Military and Associated Terms (JP 1-02) defines recovery and reconstitution as those actions taken "to minimize the effects of an attack, rehabilitate the national economy, provide for the welfare of the populace, and maximize the combat potential of remaining forces and supporting activities." The National Response Plan speaks of recovery in terms of "the development, coordination, and execution of service- and site-restoration plans and the reconstitution of

government operations and services through individual, private-sector, nongovernmental, and public assistance programs".

c. For comparison, JP 1-02 defines consequence management as those "actions taken to maintain or restore essential services and manage and mitigate problems resulting from disasters and catastrophes, including natural, manmade, or terrorist incidents, and JP 3-41 states that "CBRNE consequence management encompasses CM actions taken to address the consequences from all deliberate and inadvertent releases of chemical, biological, radiological, nuclear agents or substances, and high-yield explosives with potential to cause mass casualties and large levels of destruction".

d. Several key points to remember about the installation's recovery phase after a CBRN incident are that:

(1) The recovery phase generally begins when immediate hazards are contained or controlled (see Figure I-1).

(2) An installation's primary tasks during this recovery phase are to complete any remaining mitigation of the immediate hazard, and finish restoring mission capability and essential public and government services interrupted by an event.

(3) By this point after an attack, reconnaissance assets should have determined the boundaries of detectable chemical or radiological contamination, technical reach-back will hopefully have provided assessments of the estimated duration of negligible risk for contamination, immediate and operational decontamination will be complete, thorough and perhaps clearance decontamination will be getting underway, and the installation's ability to carry out its most critical mission-related tasks will have been restored to pre-attack levels.

(4) During this transition to follow-on operations, the installation commander is balancing between focusing resources on mission essential tasks versus completion of recovery tasks. Limitations of resources require the installation's decision makers to prioritize and concentrate on those tasks needed to recover the installation's missions and operations to full capability.

(5) Many of the recovery tasks initiated by installation personnel during the initial recovery phase will likely be transitioned to CM personnel so that installation personnel can refocus on primary installation missions.

(6) During the recovery phase, installation response teams conduct debriefing operations, begin performing re-supply and equipment maintenance, reset their response posture, and generally reconstitute their operational readiness as they commence / continue their transitions to other tasks.

2. Unique Operational Environment Considerations

As with an installation's CBRN defense planning and its response to a CBRN incident, there will likely be differences in how the recovery operations are carried out depending on whether the installation is in a domestic or foreign setting and whether the installation is in a permissive, uncertain or hostile environment. Listed below are some of the issues that may arise during the recovery phase:

a. Foreign Installations – Permissive Environment. Some of the unique factors that the command staff of an installation on foreign territory will need to consider include:

(1) CBRN recovery operations procedures and associated retrograde standards are subject to US and HN agreements that are specified in binding documents such as treaties or SOFAs. These agreements should be fully spelled out, and understood by all responding personnel.

(2) CBRN recovery operations must be routinely coordinated by the installation with their HN civilian counterparts.

(3) Either a permissive or semi-permissive environment may exist during the CBRN recovery operations. Appropriate AT/FP annexes need to be written into each recovery procedure.

(4) Based on the tactical situation at the installation, the commander may assume additional risk and direct the use of MOPP gear, as required. Guidance regarding use of military IPE / MOPP gear must be specifically mandated in writing by the appropriate theater Combatant Commander or higher authority.

(5) Communications linkages to domestically based technical reach-back will likely be more difficult to sustain therefore backup communications paths should be identified.

b. Foreign Expeditionary Installations – Uncertain or Hostile Environment. Some of the unique issues that the command staff will likely encounter on foreign expeditionary installations include the following:

(1) CBRN recovery operations could take place in an environment ranging from permissive to hostile.

(2) Based on short-term requirements for support of operational missions against an adversary, crisis-action planning may still dominate recovery operations.

(3) Based on potential shortages of subject matter experts (SMEs) in a hostile setting, the availability of timely technical reach-back may be a critical issue.

(4) At this stage, the possible lack of a robust first-responder capability (e.g., long-term sustainment of recovery operations for days or weeks) may delay or defer recovery operations.

(5) Military IPE is worn during CBRN recovery activities based on written guidance promulgated by the appropriate theater Combatant Commander or higher authority.

c. Domestic Installations. The following are examples of unique factors that any domestic military installation staff will need to consider:

(1) CBRN-related recovery operations occur under the auspices of the civilian-based ICS.

(2) CBRN-related recovery operations occur in a permissive environment.

(3) CBRN-related recovery operations use the same terms of reference used to support first-responder decontamination operations.

(4) CBRN recovery operations are routinely coordinated with civilian counterparts at the federal, state, or local level, as applicable.

(5) CBRN specialists maintain the certification required to operate with civilian first responders (as necessary).

(6) Based on the type of hazard, CBRN responders will be required to wear Level A and/or Level B clothing in lieu of MOPP gear, which don't meet Occupational Safety and Health Administration (OSHA) requirements.

3. Recovery Phase Command and Control

As was stated previously, during the recovery phase, the installation commander must focus his/her resources on those tasks that will most efficiently restore the installation's missions and operations to full capability. Two closely related critical components that help a command's staff efficiently carrying out these responsibilities are an effective information management (IM) program and a well designed and fully functional common operational picture (COP) system.

a. Information Management. An effective installation CBRN IM program provides quality information to the right persons, i.e. installation personnel and tenant and transient units, at the right time in a readily usable form to facilitate understanding and decision-making.

(1) The IM program provides information and direction to impacted personnel, maintains incident management logs and reports, manages data-sharing via interoperability services, supports establishment and operation of any Joint information centers and public affairs offices, maintains all applicable websites or web logs for public use, maintains portals and related data sharing sites for either internal or public use, and performs data-mining activities via available networks. This section is also responsible for appropriate dissemination of intelligence, surveillance, and reconnaissance information, to include threat/hazard warnings.

(2) CBRN IM supports the installation commander in three main areas:

- Achieving SA/understanding.
- Making decisions.
- Communicating execution information to implement those decisions.

(3) This installation CBRN IM has four basic sequential steps that are cyclical in nature:

(a) Identification and update of information requirements. Prior to an event occurring, the command will have developed a listing of critical information that it will need immediately available should a CBRN incident occur. During the response and recovery phases after an incident, those information requirements typically require refinement and updating.

(b) Collection and processing of information. The installation's operations center serves as a central focal point for collecting, processing, storing, protecting, displaying, disseminating key information.

(c) Provide information to build a common operational picture (COP)/display. As events transition to the recovery phase, the requirement to maintain a current COP is even more important. Resource use is probably even more constrained and a single, identical display of information shared by all the commands on an installation is even more important.

(d) Developing an understanding. A common situational understanding (by all parties) is important on an installation to help ensure coordinated and synchronized activities.

b. COP and Intelligence Preparation of the Operational Environment. During the recovery phase, an up-to-date COP is invaluable for providing the installation commander and his staff with a quick, timely, usable, precise, and reliable view of the status of a CBRN incident. During the recovery phase, the CBRN COP must be capable of supporting all aspects of the recovery operations (e.g., hazard locations,

unit CBRN capabilities, unit exposure status, and updated CBRN risk assessments). One key benefit of a good COP system is that it allows the installation to quickly relay to its tenant and transient units this identical, graphic display of relevant information for SA. The same information can be relayed to local U.S. embassy officials, and it is feasible that embassy personnel could then relay specific details on to host nation's representatives as appropriate. Obviously, to be effective, this COP must therefore be constantly updated. Updates to this COP are made from detection, identification, contamination marking, and warning and reporting information. Examples of information that the installation's operations staff will want to keep updated include:

(1) Current IPE requirements for all affected areas.

(2) Any ongoing split – MOPP operations (if applicable).

(3) Survey team input on status of all areas of contamination.

(4) Information received from technical reach-back (e.g., analysis of CBRN reports).

(5) Updates on adversary CBRN capabilities.

(6) Potential of secondary explosive devices and the likelihood of blast injury and destruction with any CBRN event, especially radiological/nuclear. Terrorists may employ conventional explosives in combination with CBR to attract responders to a scene or to injure responders after they respond to a CBRN scene.

(7) Potential for residual hazards such as breakdown products from CW agents.

(8) Status of thorough or clearance decontamination.

4. Mitigating CBRN Hazard Effects

As stated above, an installation's primary tasks during the recovery phase of a CBRN incident are to complete any remaining mitigation of the immediate hazard and finish restoring mission capability and essential public and government services interrupted by the event. This must be done while maintaining the safety and protection of affected and responding personnel. Key activities that continue or are initiated during the recovery phase include decontamination, personnel and equipment protection, contamination marking, mortuary affairs, equipment retrograde, and hazardous waste disposal. Although the jobs of completing many of these tasks gradually transitions to CM personnel, installation personnel will likely have initiated each activity. Each of these key activities will be discussed separately below:

a. Decontamination. Decontamination is conducted as a series of graduated steps (immediate, operational, thorough, and clearance decontamination). The

progression of these steps is dependent on many factors including the operational situation, type of hazard and location of the event. See the *Multiservice Tactics, Techniques, and Procedures for CBRN Decontamination* for much more detailed guidance and TTPs for CBRN decontamination.

(1) Decontamination Status. By the time the recovery phase has begun, immediate decontamination will have taken place to minimize casualties, save lives, and limit the spread of contamination. It is also likely that operational decontamination will have been carried out on specific parts of much of the installation's operationally essential equipment, materiel and/or working areas in order to minimize contact and transfer hazards and to sustain operations. Operational decontamination can also include decontamination of the individual beyond the scope of immediate decontamination, as well as decontamination of mission-essential spares and limited terrain decontamination to reduce penetration of the agent(s) into surfaces.

(2) Thorough Decontamination. During recovery operations, thorough decontamination measures commence in key locations as part of a reconstitution effort; however, these operations require immense logistical support and are manpower-intensive. Thorough decontamination is carried out by a unit, with or without external support, to reduce contamination on personnel, equipment, materiel, and/or working areas equal to natural background or to the lowest possible levels, to permit the partial or total removal of individual protective equipment and to maintain operations with minimum degradation. This may include terrain decontamination beyond the scope of operational decontamination.

(3) Clearance Decontamination. Clearance decontamination is the final level of decontamination. It provides the decontamination of equipment and personnel to a level that allows unrestricted transportation, maintenance, employment and disposal. It is the most resource-intensive and requires command involvement, guidance, and decisions on the disposition of possible mission-essential equipment. Because clearance decontamination involves factors such as suspending normal activities, withdrawing personnel, and obtaining materials and facilities that are not normally present, it will not be discussed here further. Clearance decontamination requires the application of appropriate federal or international standards. The MTTPs for CBRN Aspects of Consequence Management and CBRN Decontamination should be consulted for additional information on clearance decontamination.

(4) Facilities Decontamination. As the recovery phase begins, the installation COP should be indicating what buildings (interior and exterior) were contaminated and what type of contamination is present. The evaluation of sampling results to determine the extent of contamination may also have been completed at this point. Based on evaluation results, it may be possible to resume the use of facilities that were originally isolated and secured during the response phase, or part or all of specific facility functions may need to be transferred elsewhere. Another difficult challenge for the installation is that facilities (exterior and interior) contain many porous surfaces that may absorb contamination and may not be able to be completely decontaminated. Measures such as removal or sealing (painting) of these surfaces are

not options that would likely be exercised by the installation. Rather, these clearance decontamination issues should be left to external CM specialists.

(5) Terrain Decontamination. Hopefully as the recovery phase of a CBRN incident commences, reconnaissance assets will have determined the boundaries of detectable chemical or radiological contamination on surrounding terrain. The commander has multiple options available to cope with contaminated terrain including isolating the area, setting revised boundaries for sectors or zones, and decontaminating the terrain. For further discussion on this issue, see the MTTPs for CBRN Aspects of Consequence Management and CBRN Decontamination.

b. Individual and Collective Protection. As the recovery phase begins, multiple active and passive measures should be in full operation providing protection to the installation from CBRN hazards. Within the following paragraphs, several of these protection measures for personnel and equipment will be discussed.

(1) Personal Protection. During all phases of an installation's response to any incident, the commander and his staff need to monitor the effects of extended wear of IPE on personnel. They need to continually reevaluate what level of heat stress or psychological burden is likely to result from the continued use of protective clothing and equipment under current environmental conditions. Heat stress is a pathological condition in which the body's cooling mechanisms are unable to dissipate the heat load generated. It is disabling and in early, mild stages causes mental confusion and loss of coordination and concentration. Heat stress rapidly progresses through heat exhaustion to heat stroke, which is a very serious medical emergency. These types of evaluations require the assistance of the command's senior medical advisor and his staff. See *MTTP for CBRN Protection* for additional guidance.

(2) Personnel Evacuation. Evacuation operations may have commenced as a component of an installation's initial response actions. As the recovery operations progress, depending upon the extent of the impact of the CBRN incident and the progress of the subsequent decontamination efforts, conditions may start to stabilize to a point that it may become safe for some personnel to move back to their original locations. Based on the feedback from post-attack CBRN reconnaissance, the installation commander may deem it safe for personnel to return to their original duty stations. These returning personnel will need to be kept updated on safe routes of movement as the decontamination efforts continue to avoid accidental contamination or re-contamination. A well executed and widely disseminated COP will significantly improve an installation's ability to keep evacuation ambulances and aircraft free of accidental contamination along their egress routes as well as keep installation personnel free of accidental re-contamination during their return to station.

c. General Medical Activities, Quarantine, Isolation, and Restriction of Movement.

(1) Medical Activities. During the execution of recovery operations, installations continue to use their existing medical capabilities (i.e., generally Level I

[battalion aid station, expeditionary force medical team, and installation medical department activity] and Level II [division-level, expeditionary force medical teams, and installation medical department activity]). During this phase, first responder capabilities still undergoing high use will likely include advanced trauma management, disease prevention, combat and operational stress control prevention, casualty collection, and evacuation from supported units to supporting medical treatment facilities (MTFs). An installation commander's forward resuscitative care duplicates first responder care and expands services available by adding dental, laboratory, X-ray, and patient-holding capabilities. Surgical capabilities may also be provided at this capability by surgical augmentation teams.

(2) Quarantine and Isolation. If a biological warfare (BW) agent was used in the attack, "quarantine" or "isolation" may be needed during the response and/or recovery phases to prevent contact between healthy populations and those either infected or suspected of being infected with an infectious disease. These types of decisions are made after consultation with the command's senior medical advisor. Quarantine involves the detention of an individual or group suspected of having been exposed to an infectious disease until it is deemed that they have escaped infection (usually once the incubation period has lapsed). Isolation is the separation of an infected individual from a healthy population. (The term is usually used to refer to patients in an MTF.)

(3) Restriction of Movement (ROM). This is another tool that installation commanders may choose to use to maintain operational effectiveness in the face of an infectious disease, whether natural or intentional (such as a BW attack). The goal is to control the spread of the disease by restricting contact between healthy groups of personnel and those who have, or are suspected of having, contracted the disease. Personnel covered by ROM do not necessarily need to be removed from operations. Rather, ROM should be implemented in such a way as to allow them to continue their mission. Again, these decisions are made with recommendations furnished by the command's senior medical advisor.

d. Contamination Marking. Contamination marking is used to provide a warning to installation personnel of the presence of contamination. If contaminated areas weren't sufficiently well marked during the initial reconnaissance after the CBRN incident, such marking efforts should be a high priority during the recovery phase. See MTTP for CBRN Reconnaissance for additional guidance on these procedures. Contamination marking signs are standardized in color, shape, and size (see Figure V-2). The primary (background) color of the marking sign indicates the general type of contamination. The secondary (foreground) color identifies the specific hazard. Contamination marking signs are annotated with important information that includes the following data fields:

- **Chemical.** Post the name of the agent, if known, and the date and time of detection.
- **Biological.** Post the name of the agent, if known, and the date and time of detection.

- **Radiological.** Post the dose rate, the date and time of the reading, and the date and time of the burst, if known.

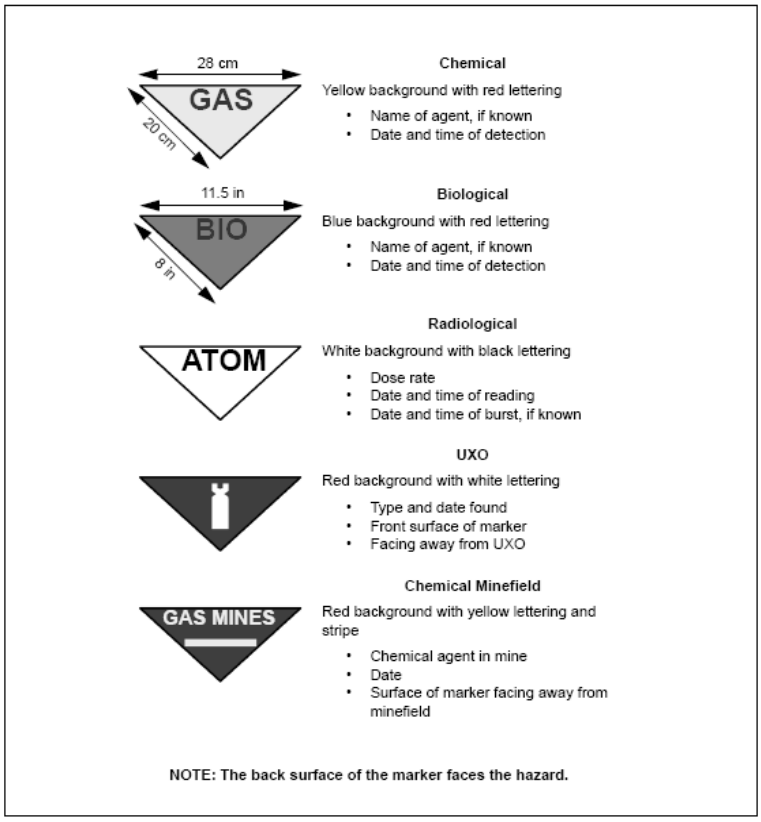

Figure V-2. Contamination Marking Signs

(1) When those standards are not provided or when standard markers are unavailable, units may use expedient markers to mark CBRN hazards. Any suitable material including locally produced marking signs, decals, tape, chalk, and paint may be used to construct these expedient markers to the approximate size and shape of the examples. See MTTP for CBRN Reconnaissance for additional guidance on standardized contamination marking sets and figures illustrating expedient CBRN hazard markers.

(2) Standardized CBRN contamination marking procedures include the following:

(a) Place the contamination markers where they will be most likely seen by approaching individuals and units. Individuals who locate the contamination will place markers at the point of detection. To prevent forces from missing posted markers and inadvertently entering contaminated areas, place adjacent marking signs at intervals of 25 to 100 meters, depending on the terrain. If marking contamination in open terrain (i.e., desert, plains, rolling hills), raise the markers to heights that permit approaching forces to view them at distances up to 200 meters. *MTTP for CBRN Reconnaissance* shows a sample contamination bypass marker.

(b) Mark contamination on all sides in rear areas to warn follow-on and support units of the hazard. These clear zones (safe lanes) provide greater freedom of movement by rear area forces through or around contamination.

(c) Mark buildings and other facilities that may be contaminated at critical points, such as entry points.

(d) Mark materiel to protect personnel from accidental contamination. Place contamination markers on any unmarked equipment present in the CBRN attack area. Personnel using equipment after decontamination must take precautions against vapor, particulate, and liquid contamination that may be trapped inside filters, assemblies, and joints. The contamination could pose a hazard while equipment is being used or maintained.

e. Mortuary Affairs. Installations may need to contend with CBRN-contaminated remains. The joint tactics, techniques and procedures (JTTP) for the processing and handling of contaminated remains are found in JP 4-06.

f. Equipment Retrograde. Some equipment that has received low-level contamination may be required during a redeployment (retrograde) within the recovery phase. See the *Multiservice Tactics, Techniques, and Procedures for CBRN Decontamination* and the *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Aspects of Consequence Management* for further information on equipment retrograde. The installation should maintain copies of any records documenting when and how any of its equipment underwent operational and thorough decontamination operations. The key concern is the potential for residual contamination. During recovery, if equipment is to be retrograded under non-emergency conditions from an installation, some of the basic control measures that an installation should consider adopting include:

(1) Using consolidation points for equipment suspected of residual contamination.

(2) Establishing buffer zones around each consolidation point to provide an additional contamination control measure.

(3) Using specialized detectors and monitors to confirm and monitor for contamination.

(4) Providing installation personnel engaged in monitoring and preparation of equipment retrograde with stringent personal protection and specialized detectors.

g. Hazardous Waste. During initial recovery operations and as well as during subsequent associated longer term consequence management operations, the installation will be challenged with handling and disposing of potentially huge amounts of contaminated waste. These contaminated items may include IPE, field gear, M8/M9

paper, components of M291 and M295 kits, pallet covers, bulk plastic, tarps, other contamination avoidance covers, and decontamination solutions. Guidance on proper collection and disposal of these materials is available in the following documents: Occupational Safety and Health Administration (OSHA) Hazard Communication (HAZCOM) Standard, the OSHA Hazardous Waste and Emergency Response (HAZWOPER) Standard, the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Superfund Amendments and Reauthorization Act (SARA). During recovery operations, the installation's hazardous waste handling responsibilities include ensuring that—

(1) Waste collection sites are established, properly marked, reported, and maintained.

(2) Installation personnel apply contamination avoidance techniques and procedures to establish and maintain waste collection points and segregate wastes for localized collection.

(3) The CBRN control center provides technical guidance and oversight for establishing installation contaminated waste disposal areas and marks and plots accumulation points and disposal areas on local area and grid maps.

(4) Medical authorities provide technical oversight and guidance for personal safety and health-related issues.

h. General Logistics Concerns. As the recovery phase progresses, more and more of the installation's operations begin to return to pre-incident levels as the installation restores additional mission capability. Logistics issues that will likely arise during this period include:

(1) Replacing personnel who may have become injured or ill during decontamination operations.

(2) Reordering supplies (e.g., detector paper, decontamination solutions, decontamination kits, and apparatuses).

(3) Maintaining or repairing vehicles and equipment, including recalibrating or replacing detectors and alarms.

(4) Marking used decontamination sites, selecting new decontamination sites, reporting old and new decontamination sites, and recording and reporting previously contaminated personnel and equipment.

(5) Documenting resource expenditures.

(6) Conducting FHP.

(7) Preparing after-action reviews (AARs) and documenting the use of resources.

Appendix A

INSTALLATION CBRN DEFENSE PLAN DEVELOPMENT

1. Background.

The CBRN defense plan is an important document for support of installation preparation, response, and recovery operations.

2. Installation CBRN Defense Plan Development Process

a. Considerations. Important points to consider for developing a CBRN defense plan include the following:

- The development of a comprehensive, integrated, and executable installation CBRN defense plan is the responsibility of the commander.
- Commander involvement is essential.
- The recommended lead for installation CBRN defense plan development is the installation operations officer and his staff.
- No single individual should be tasked with the sole responsibility of developing an installation CBRN defense plan. Installation CBRN defense plan development and documentation should be a collective effort.
- The most effective method of developing and documenting an installation CBRN defense plan is through the utilization of a cross-functional working group, such as the installation AT working group. This working group should include those individuals (or office representatives) of the ESF managers identified by the commander.
- Using the AT working group ensures the participation, input, and "buy-in" of necessary cross-functional SMEs.
- Everyone involved in installation CBRN defense plan development and documentation should be thoroughly familiar with—
  - Applicable installation CBRN defense directives.
  - Previous installation CBRN defense plans and assessments.
  - Data developed earlier in the overall installation defense plan development process.
- The unpredictability of the installation CBRN defense mission requires that the installation CBRN defense plan provide the "what" and the "how to" instructions that define when, where, by whom, and in what manner specific CBRN defense measures must be conducted and coordinated. Detailed "how to" instructions should—
  - Permit subordinate commanders to prepare supporting plans.
  - Focus on subordinate activities.
  - Provide tasks, activities, constraints, and coordinating instructions.
  - Not inhibit initiative.

- Provide a clear, concise mission statement.
- Convey the commander's intent.
- Include annexes/appendixes, if required, in order to expand the information not readily incorporated in earlier text.

b. Process. The CBRN defense plan format follows the standard OPLAN and five-paragraph order format, yet is tailored to meet the unique requirements of comprehensive CBRN defense programs. There are eight basic steps in developing an installation CBRN defense plan. They are:

(1) Gather/compile information developed during earlier installation planning processes. Information gathered by the planning staff during the entire installation AT/FP planning process is used for CBRN defense plan documentation.

(2) Produce a summary and basic plan. The plan summary provides the reader with a concise synopsis of the scope and purpose of the plan. The basic plan provides the groundwork for all amplifying sections (annexes/appendixes) and is produced prior to their documentation. The basic plan follows the five-paragraph-order format and describes the situation–mission–plan for execution (commander's intent, CONOPS, tasks, coordinating instructions)–administrative and logistics concepts–C2 concepts.

(3) Determine/assign responsibility for developing annexes/appendixes. Annexes provide the details not readily incorporated into the basic plan, and they are written to increase the clarity and usefulness of the basic plan: task organization-logistics–intelligence-personnel–operations-multitude of installation CBRN defense specific topics. These are only required if deemed necessary. Each annex relates to a specific aspect of the CBRN defense operation. Appendixes further expand the annexes and contain even more detailed explanation of the commander's concept for installation CBRN defense operations. Appendixes can further be subdivided into tabs and enclosures. Development and documentation of individual annexes/appendixes should be tasked to the AT working group members with a related expertise or responsibility for the activity. For example, the public affairs representative should supervise the development of Annex F (Public Affairs).

(4) Establish a plan of action and task suspense dates for completion of annexes/appendixes. Installation CBRN defense plan development and documentation requires a comprehensive, integrated approach and a strong, clear vision of installation CBRN defense program requirements. A realistic plan of action, with suspense dates, drives the efficient development and documentation of the installation CBRN defense plan.

(5) Coordinate staff development and review of the plan. Each service has published guidance concerning deliberate planning, organization, and coordination of staff (FM 5-0, NWP 11, Air Force Manual [AFMAN] 10-401, and Marine Corps Warfighting Publication [MCWP] 5-1).

(6) Finalize the plan and submit it to the commander for review and approval. The finalized plan should be—

- Consistent with the organization/installation mission and responsibilities.

- Oriented on tactical perspective.
- Adequately detailed to provide specific actions to be taken.
- Easily understood.
- Executed quickly and decisively, if required.

After the commander's approval and upon execution, the installation CBRN defense plan becomes an OPORD.

(7) Publish, plan, and task the development of supporting plans. Once the installation CBRN defense plan is published, the next planning cycle begins. The installation CBRN defense plan cannot remain static; rather, as the situation changes, the plan must also change. The installation CBRN defense plan must remain under constant review that it is truly a "living document". Each subordinate and supporting commander who is assigned a task in the installation CBRN defense plan may prepare a supporting plan. Supporting plans are consistent with supporting commander missions and responsibilities. Supporting plans are submitted to the supported commander for review and approval.

3. Installation CBRN Defense Plan Format

Figure A-1, page A-4, provides an example of an installation CBRN defense plan format. As stated above, installations have the flexibility to choose their own formats.

1. Situation.

a. Enemy Situation. Describe threat CBRN weapons and agent capabilities, threat delivery capabilities, and circumstances or conditions supporting threat use of CBR weapons.

b. Friendly Situation. Include tenant and transient CBRN defense capabilities/locations with projected arrival and departure times for transients. Identify CBRN defense task organization and current force protection conditions.

c. Attachments and Detachments. List any HN, local, state or federal emergency support units or assets that have been agreed upon under MOAs.

2. Mission. Describe the mission of CBRN defense. Ensure it is consistent with the commander's intent.

3. Task.

a. Commander's Intent. Describe the intent of the CBRN defense program and mitigation measures to prevent potential threat attack so that loss of life is kept to an absolute minimum.

b. CONOPS. Descriptive overview by ESF of how CBRN defense are executed in response to threat CBRN attacks. Articulate who, what, with what, how, where, and when for each ESF during preincident, incident, and postincident phases of a CBRN event.

(1) ESF #1	Transportation
(2) ESF #2	Communications
(3) ESF #3	Public works and engineering
(4) ESF #4	Firefighting
(5) ESF #5	Emergency management
(6) ESF #6	Mass care, HHS
(7) ESF #7	Resource support
(8) ESF #8	Public health and medical services
(9) ESF #9	Urban searches and rescue
(10) ESF #10	Oil and HAZMAT response
(11) ESF #11	Agriculture and natural resources
(12) ESF #12	Energy
(13) ESF #13	Public safety and security
(14) ESF #14	Long-term community recovery and mitigation
(15) ESF #15	External affairs

c. Execution. Describe critical subparagraphs including—

(1) Tasks to Subordinate Tenant Units. Detailed task assignments to each tenant unit with execution guidance, as required.

(2) HN, Local, State, and Federal Agency Tasks. Tasks must be agreed upon by MOA. Specify those assets that are available to support response/restorative efforts, such as fire-fighting equipment, security, and medical assets.

(3) Rehearsals/Exercises. Plan and execute annual rehearsals/exercises to include threat weapons, location of incident(s), participating units, participating civilian agencies, post-exercise evaluations, and other scenario-related characteristics.

Figure A-1. Installation CBRN Defense Plan Format

d. Coordinating Instructions.

(1) Minimum MOPP levels and flexibility guidance.

(2) Contamination avoidance guidance.

(3) Reiteration/establishment CBRN threat-response measures.

(4) Chemical and biological early warning and detection systems (include integrated chemical alarm systems and biological systems, if available).

(5) Reconnaissance and survey team actions.

(6) Personnel safety criteria.

(7) Operational exposure guidance.

(8) Automatic masking/unmasking guidance.

(9) Reporting requirements.

(10) CBRN sample collection guidance and transfer points.

(11) Instructions/procedures for civilian/HN interaction/support.

(12) Decontamination team actions and priorities.

(13) Locations of HAZMAT storage and disposal facilities.

4. Service Support.

a. Contaminated casualty collection points/procedures.

b. Procedures for contaminated remains.

c. Location of consolidated CBRN defense equipment.

d. Locations of field-expedient decontamination supplies/HN support.

e. Decontamination and MOPP exchange points.

f. Special contamination control requirements.

g. Retrograde contamination monitoring sites.

h. CBRN equipment/supply controlled supply rates and stockage points.

i. Location of medical CBRN defense items and procedures for issue and administration.

5. Command and Signal.

a. Warning signals and alarms.

b. CBRNWRS.

Figure A-1. Installation CBRN Defense Plan Format (continued)

4. Sample CBRN Defense Plan

Figure A-2 provides a sample CBRN defense plan in a different format than the above example.

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APPENDIX 5 TO ANNEX C TO INSTALLATION X-RAY AT PLAN

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR (CBRN) DEFENSE

Ref: See the Basic Plan

1. Situation

a. General. This tab provides planning guidance for the protection of installation X-ray military members, family members, DOD civilian, and on-base DOD contractors from the effects of terrorist CBRN (including TIM). These devices are commonly known as WMD. Installation X-ray units deployed to other locations follow the CBRN planning guidance for those locations. For the purpose of this AT plan, CBRN defense is focused on deterrence through effective planning, training, and equipping of installation X-ray personnel.

b. Enemy. See Annex B (Intelligence).

c. Friendly. See Annex A (Task Organization) and Annex J (Command Relationships).

d. Attachments/Detachments. See Annex A (Task Organization) and Annex J (Command Relationships). For the purpose of this Annex, attachments/detachments refer to tenant organizations that participate in a response to a terrorist incident that occurs on installation X-ray. Attachments/detachments may also be made up of any HN, local, state, or federal response forces that have been agreed upon under appropriate MOAs, SOFAs, or HN agreements.

e. Assumptions.

(1) See the Basic Plan.

(2) There is an increased possibility of a CBRN attack due to the relative ease of access to chemicals, explosives, and plan designs for such devices.

(3) A CBRN scenario exceeds the crisis response/CM capabilities of base resources.

(4) Extensive DOD, local, state and federal support is required to cope with a CBRN scenario.

(5) Incidents involving CBRN are often a combination of three types of incidents. Potentially, they could be HAZMAT incidents, mass casualty incidents, and criminal incidents.

(6) CBRN incidents pose significant problem for first responders.

(7) Installation X-ray should be able to contain CBRN incidents until the arrival of DOD, state, and federal response forces.

Figure A-2. Sample Installation CBRN Defense Plan

(8) Mass casualty planning should augment CBRN planning.

(9) Effective planning, proactive passive/active protective measures, and continuous exercising of crisis action plans help to mitigate the effects of a CBRN attack.

(10) Installation X-ray maintains MOAs with appropriate local, state, and federal agencies or HN forces.

(11) Procedures and protective equipment are required for first responders (i.e., emergency medical services, firefighters, and military police). These can include MOPP, OSHA Level A equivalent, detection equipment, and a heightened awareness for the presence of CBRN agents/devices.

(12) The FBI has primary jurisdiction for investigating CBRN terrorist incidents, and the FEMA is primarily responsible for CM.

2. Mission

On a continuing basis and in conjunction with local, state and federal agencies, installation X-ray is prepared to respond to a CBRN incident and maintains a high level of readiness by conducting preincident planning, implementing mitigation measures, and exercising terrorist incident response/CM operations aimed at lessening the effects of a CBRN incident.

3. Execution

a. Commander's Intent. An example of the commanders intent is as follows: "I intend to develop comprehensive CBRN plans designed to marshal installation, DOD, local, state, federal, and civil resources in an effort to deter, mitigate, and respond to a CBRN incident. The cornerstone of this planning effort will be our ability to conduct proactive deterrent measures prior to a CBRN incident. Plans will specifically address how local, state, federal, and civilian resources will be incorporated into deterrent, mitigation and response efforts. **Endstate**: Installation X-ray has executable plans, personnel are trained to be equipped to execute their responsibilities, and CBRN plans are exercised periodically."

b. CONOPS. The installation goal is to protect personnel, materiel, and facilities from a potential terrorist CBRN threat. Installation X-ray protects key assets by deterring potential terrorists from employing a CBRN device as a WMD. The focus is on effective planning, training, and equipping of personnel. Commanders must ensure that their units/organizations have planned for a CBRN event and are adequately trained and equipped. In case deterrence fails, incident response and terrorist CM actions reduces the risk to personnel, materiel, and facilities.

(1) Preincident phase.

(a) All units/organizations appoint, in writing, a CBRN defense officer and an alternate to develop, implement, and supervise the organizational CBRN defense program.

(b) The CBRN defense officer's responsibilities include but are not limited to—

- Coordinating with the intelligence division to ensure that the CBRN threat is identified and that information is disseminated to unit/organization personnel.
- Assessing CBRN readiness and vulnerabilities based upon the threat
- Developing CBRN defense plans and training guidance.
- Coordinating and tracking execution of CBRN defense training.
- Identifying CBRN defense logistical requirements.
- Participating in the installation AT working group.

Figure A-2. Sample Installation CBRN Defense Plan (continued)

(c) All units/organizations develop a CBRN defense plan. The plan should be an annex to the unit/organization antiterrorism plan. Plans should be integrated and supportive of the Installation X-ray plan, the next higher HQ and adjoining unit/organization plans. The plan should address the following areas:

- CBRN vulnerabilities and associated mitigation measures.
- Early warning and detection procedures.
- Survey operations.
- Decontamination operations.
- Individual and collective protection procedures.
- Casualty management and evacuation.
- Issuing of medical CBRN defense items.
- Training requirements.
- Resource requirements.

(d) All units/organizations implement CBRN defense training programs that adequately prepare individuals and units to meet the threat (see Tab B to this Appendix). Units/organizations conduct a CBRN defense exercise at least annually using one or more of the materials or agents characteristic of a CBRN attack. The training should challenge the unit ability to react to a CBRN attack and continue operations.

(e) Units/organizations provide CBRN IPE to critical and mission-essential assigned military personnel and DOD personnel. US contractor civilians are provided IPE as determined by contract or by the commander. Issuance of equipment to civilians, including military dependents, must be consistent with supply availability and with consideration of the individual's exposure risk. Civilian personnel, including dependents, issued IPE must be trained on the proper use of the equipment. They are subject to the same individual training standards.

(f) Installation X-ray specific CBRN FPCON measures are established at all levels of command based on assessment of the CBRN threat. CBRN FPCON actions should consist of graduated levels of CBRN defense measures commensurate with the threat of a CBRN attack.

(2) Incident Phase. First responders perform actions such as containing and controlling the incident site; rescuing survivors; performing hasty decontamination, triage and evacuation; and identifying, if possible, the agent. This phase is complete when the immediate threat has been abated and surviving victims have been evacuated for treatment.

(3) Postincident Phase. This phase involves continuing consequence management actions. The incident site is searched for evidentiary material. First responders and terrorist CM workers may require psychological counseling. Response agencies conduct comprehensive reviews of actions taken in order to improve procedures. This phase is complete when the area is restored to normal operations.

c. Tasks.

(1) Installation X-ray Commander

(a) Ensure that CBRN defense plans are developed, individual and collective training and annual exercises are accomplished. associated resource requirements are identified, and IPE is issued to personnel.

(b) Retain jurisdiction for CBRN incidents until the FBI assumes jurisdiction and be prepared to establish a unified command relationship with responding local, state, and federal agencies.

Figure A-2. Sample Installation CBRN Defense Plan (continued)

(c) Exercise C2 through the CMT.

(d) Employ the CBRN emergency response force and other units to deal with the threat.

(2) Director, Operations Division

(a) Retain primary staff oversight for the development of CBRN defense plans. Ensure that CBRN plans integrate available DOD, local, state, and federal response forces and resources.

(b) Coordinate CBRN defense training and annual exercises.

(c) When directed by the installation X-ray commander, convene the CMT and activate the EOC.

(d) Oversee the development and implementation of FPCON measures.

(e) Initiate the installation-wide mass notification process. Periodically test and exercise the notification process to ensure viability.

(f) Ensure that local, state, and federal agencies are notified when an incident occurs and the EOC is activated.

(g) Coordinate CBRN incident and postincident recovery operations.

(h) Prepare and submit installation AARs.

(3) Director, Intelligence Division (OSI, CID, NCIS)

(a) Ensure that all available sources of intelligence are used to develop a CBRN threat assessment as a part of the overall terrorism threat assessment. At a minimum, consider the following questions:

- Who are the terrorist groups who have used or have the capability to use CBRN?
- Are any of these groups or offshoots of these groups present in the local area?
- What type of agents/materials could be used?
- What are the means of delivery?

(b) Provide daily updates and threat summaries as part of the commander's INTSUM.

(c) Be prepared to support the installation CBRN defense training program, as required.

(4) Director, Medical Services

(a) Ensure that medical personnel are equipped and trained to handle CBRN-contaminated victims. Maintain the capability to execute emergency medical services, to include basic lifesaving measures and procedures to treat CBRN contaminated victims.

(b) Develop and maintain a medical MOA/MOU with local civilian and military medical facilities to provide emergency medical support to CBRN incident response operations.

Figure A-2. Sample Installation CBRN Defense Plan (continued)

(c) Maintain an adequate medical supply for CBRN medical emergencies. Maintain a supply of NAAK (atropine and 2 PAM chloride).

(d) Provide an on-scene medical officer to coordinate/supervise triage and evacuation actions.

(e) Advise local hospitals to prepare for the receipt of CBRN-contaminated victims.

(f) Be prepared to execute the mass casualty plan. Establish a procedure for patient tracking and accountability.

(g) Be prepared to support the installation CBRN defense training program, as required.

(h) Execute the installation-wide vaccination policy.

(i) Monitor local, state, and national disease reporting systems for indicators of a biological attack in an area that could affect the installation.

(5) Director, Public Safety Division (law enforcement and security/fire/emergency response)

(a) Ensure that security, emergency response and fire-fighting personnel are equipped and trained to respond to CBRN contaminated incident scenes.

(b) Ensure that fire-fighting and other emergency response personnel maintain an on-scene capability to identify CBRN agents/materials.

(c) Establish procedures for dispatchers to query/identify incoming calls for potential CBRN incidents.

(d) Provide on-scene C2 per Annex C (Operations) and Annex J (Command Relations). Establish cordon area based on weather conditions.

(e) Be prepared to perform hasty decontamination of victims.

(f) Recommend the activation of the CBRN emergency response force, as required. See ANNEX J (Command Relationships).

(6) Director, Public Works (Facilities) Division

(a) Ensure that CBRN scenarios are incorporated into installation HAZMAT response procedures.

(b) Ensure installation HAZMAT response teams are capable of responding to a CBRN scenario.

(c) Be prepared to dispose of CBRN-contaminated waste material.

(d) Be prepared to test installation drinking water and water drainage areas after a CBRN incident, in coordination with medical/bioenvironmental engineering services.

(e) Provide logistical support per Annex D (Logistics).

Figure A-2. Sample Installation CBRN Defense Plan (continued)

(7) Subordinate and Tenant Unit Commanders and Security Zone Commanders

(a) Establish an effective CBRN defense program in accordance with the requirements outlined in this Tab.

(b) Appoint, in writing, a CBRN defense officer and an alternate officer to develop, implement, and supervise the organizational CBRN defense program. Ensure that the CBRN defense officer accomplishes tasks in accordance with paragraph 3.b.(1)(b) above.

(c) Develop a CBRN defense plan. This plan should be an annex to the unit/organization AT Plan. Plans should be integrated and supportive of the Installation X-ray plan, next higher HQ, and adjoining unit/organization plans. Ensure that the plan includes information outlined in paragraph 3.b.(1)(c) above and see Tab A to this Appendix.

(d) Implement a CBRN defense training program that adequately prepares individuals and units to meet the threat (See Tab B to this Appendix). Unit/organizations conduct a CBRN defense exercise at least annually. The defense exercise should have a threat different from that of the previous year.

(e) Provide CBRN IPE to critical and mission-essential assigned military and other DOD personnel (See Tab C to this Appendix).

d. Coordinating Instructions.

(1) The priority of actions for CBRN incident responders are as follows:

(a) Control/contain incident site and surrounding areas.

(b) Perform rescue operations for survivors.

(c) Decontaminate injured.

(d) Triage and evacuate injured.

(e) Collect and preserve evidence.

(f) Collect and identify the deceased.

(g) Conduct site cleanup and HAZMAT disposal.

(h) Return incident site to normal operations.

(2) The primary responsibility of the installation is the containment of the CBRN agent and the rescue of survivors.

(3) All victims of a CBRN agent attack are hastily decontaminated before evacuation to a medical facility. Patient decontamination is achieved by:

(a) Removal of the victim from the contaminated area (hot zone).

(b) Removal of contaminated clothing.

(c) Rinsing with large quantities of water and/or cleaning with various decontamination solutions.

(4) Identification/classification of chemical, biological, and nuclear materials is obtained by using various detection devices.

(5) The MOA is developed to support this Appendix.

Figure A-2. Sample Installation CBRN Defense Plan (continued)

(6) Deploying units should familiarize themselves with any HN response procedures and/or the base defense plans for any sites where they will be tenants. Once deployed and a CBRN incident occurs, units should seek to tie in with existing unit actions and procedures to assist in recovery, security, and other postincident responses.

4. Administration and Logistics

a. Administration. See the Basic Plan.

b. Logistics. See Annex D (Logistics).

5. Command and Signal

a. Command. See Annex A (Task Organization) and Annex J (Command Relationships).

b. Signal. See Annex K (Command, Control, Communications and Computer Systems).

I. M. RESPONSIBLE
Commander, Installation X-RAY

Tabs:
Tab A: CBRN Defense Planning Process and Plan Format
Tab B: CBRN Defense Training
Tab C: CBRN Defense Equipment and Availability
Tab D: General Chemical Attack Scenario Analysis (Hazard Prediction and Assessment Capability [HPAC] Analysis)
Tab E: General Biological Attack Scenario Analysis (HPAC Analysis)
Tab F: General Radiological Attack Scenario Analysis (HPAC Analysis)
Tab G: General Nuclear Attack Scenario Analysis (HPAC Analysis)
Tab H: General Toxic Industrial Material Scenario Attack Analysis (HPAC Analysis)
Tab I: General Improvised Explosive Device (IED) Scenario Attack Analysis (HPAC Analysis)

Figure A-2. Sample Installation CBRN Defense Plan (continued)

5. Technical Reach-Back Assets

a. Technical reach-back is the ability to contact technical SMEs when an issue exceeds the installation's capability. Reach-back should be conducted using established installation protocols. Many reach-back resources have other primary missions and are not specifically resourced for reach-back. Issues may include the following:

(1) Nonstandard Agent Identification of CBRN Warfare Agents and TIM. Military responders are trained to detect and identify certain military warfare agents. If a TIM is used, or is suspect, then installation personnel must obtain technical information. This technical information could include persistency, medical effects, or decontamination or protection requirements.

(2) Modeling. During CBRN operations, the spread of contamination must be limited. Technical reach-back can help support detailed analysis of an area to assist in determining downwind hazards locating staging areas, operations centers, decontamination sites, etc.

(3) CBRN-Agent Sample Evacuation. Sample evacuation can be an important part of installation operations. The evacuation of samples can provide the means to obtain critical information for patient treatment. Samples evacuated can also be used as evidence for prosecution.

(4) Hazard Prediction. Technical experts can use modeling to provide a better indication of where vapor, liquid, or aerosolized hazards may occur on an installation.

b. Reach-back can be accomplished through various means, from the telephone to broadband satellites; however, information management protocols and chain-of-command must be followed before using any hot-line number.

Table A-1. Technical Reach-Back Contact Information

NRC, Chemical Terrorism/CB Hot Line	800-424-8802 or 202-267-2675 *http://www.nrc.uscg.mil/nrchp.html*
DTRA	877-240-1187
AFRRI	301-295-0316/0530
USAMRIID	888-872-7443
USAMRICD	410-436-3277
USACHPPM	800-222-9698 *http://www.chppm.com*

6. National Response Center and Chemical-Biological Hot Line

a. The NRC mans the hot-line service and serves as an emergency resource for first responders to request technical assistance during an incident. The intended users of the hot line include trained emergency personnel such as emergency operators and first responders (firefighters, police, and emergency medical technicians who arrive at the scene of a CB terrorist incident). Other potential users may include the state EOCs and hospitals that may treat victims of agent exposure.

b. The US Coast Guard (USCG) operates the NRC, and its trained operators staff the hot line seven days a week, 24-hours a day. Operators use extensive databases and reference material and they have immediate access to the Nation's top SMEs in the field of CBRN agents. NRC duty officers take reports of actual or potential domestic terrorism and link emergency calls with applicable SMEs (such as those from the Research, Development, and Engineering Command [RDECOM], or the USAMRICD) for technical assistance and with the FBI to initiate federal response actions. The NRC also provides reports and notifications to other federal agencies as necessary. Specialty areas include the following:

- Detection equipment.
- PPE.
- Decontamination systems and methods.
- Physical properties of CB agents.
- Toxicology information.

- Medical symptoms from exposure to CB agents.
- Treatment for exposure to CB agents.
- Hazard-prediction models.
- Federal response assets.
- Applicable laws and regulations.

c. The CB hot line is a joint effort of the USCG, FBI, FEMA, Environmental Protection Agency (EPA), Department of Health and Human Services, and the DOD. The NRC is the entry point for the CB hot line. The NRC receives basic incident information and links the caller to the DOD and FBI chemical, biological, and terrorism experts. These and other federal agencies can be accessed within a few minutes to provide technical assistance during a potential CB incident. If the situation warrants, a federal response action may be initiated.

d. Local established policies and procedures for requesting federal assistance should be used before contacting the CB hot line. State and local officials can access the hot line in emergency circumstances by calling 1-800-424-8802.

7. Defense Threat Reduction Agency

a. DTRA can provide technical reach-back information and services for on-scene personnel. The focal/coordination point for support is the DTRA EOC (1-877-240-1187).

b. The DTRA Operations Center (OPCEN) enables first responders and service members to deal with CBRN threats through on-line assistance and provides a wideband infrastructure for user support. As part of the Combat Support Directorate of DTRA, the OPCEN is manned 7-days a week, 24-hours a day, and has the requisite communications links to act as the single POC for on-line assistance and the dispatch of other agency resources, as required.

c. DTRA resources can provide support and crisis action planning through modeling and simulation, scenario development, and war game and exercise participation. Representative support that can be provided includes—

- Access to decision support assets for CBRN analysis and consequence prediction.
- Access to high-resolution weather data.
- Access to data files on CBRN materials.
- Access to teleconferencing capabilities and national experts.
- Online collaborative support.

8. Armed Forces Radiobiology Research Institute

The Armed Forces Radiobiology Research Institute (AFRRI) can provide DOD with a technical support capability for nuclear/radiological incidents or accidents. AFRRI can provide multiple services, such as furnishing training to health professionals on the management of nuclear or radiological casualties and/or providing state-of-the-art expertise and advice to commanders following a nuclear or radiological accident involving nuclear weapons, a reactor, or radiological material. AFRRI can also provide

access to biodosimetry and bioassay support to incident responders and local health authorities

9. United States Army Medical Research Institute of Infectious Diseases

The US Army Medical Research Institute of Infectious Diseases (USAMRIID) provides medical and scientific SMEs and technical guidance to commanders and senior leaders on prevention and the treatment of hazardous diseases and the prevention and medical management of biological casualties. The USAMRIID serves as the DOD reference center for identification of biological agents from clinical specimens and other sources. The USAMRIID can provide technical guidance for assessing and evaluating a biological terrorist incident, from initial communication of the threat through incident resolution.

10. United States Army Medical Research Institute of Chemical Defense

The USAMRICD provides medical and scientific SMEs and technical guidance to commanders and senior leaders on the prevention and treatment of chemical casualties. The USAMRICD can provide technical guidance for assessing and evaluating a chemical terrorist incident, from initial communication of the threat through incident resolution.

11. United States Army Center for Health Promotion and Preventive Medicine

The USACHPPM provides a variety of technical, medical, and public health SMEs. SMEs are available to provide direct support to DOD field and installation personnel, as well as commanders and senior leaders regarding the prevention and mitigation of, response to, and recovery from incidents involving CBRN releases. The USACHPPM offers particular expertise relative threat and health risk assessments associated with TIC, TIM, and CWA materials. This includes occupational and public health goals and exposure limits including the delineation of response/recovery action levels (i.e., clean up or clearance goals). CHPPM is also designated as the official DOD FHP archival agency for documentation of exposures to military personnel during deployments.

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Appendix B

EMERGENCY SUPPORT FUNCTION (ESF) MANAGER ROLES

Sample ESF manager roles are shown in Table B-1

Table B-1. Sample ESF Manager Roles

ESF	Name	ESF Manager Roles
No. 1	Transportation	• Advise the IC, ICP, or EOC Director on the availability or limiting factors of transportation resources. • Provide transportation for follow-on team members from the assembly point to the designated Incident Command Post as required. • Coordinate all requests for transportation support. • Coordinate the evacuation of equipment from the incident area. • Request additional transportation resources from local agencies when needed. • Strategically plan for future phases.
No. 2	Communications	• Monitor mass notification/public warning system. • Supervise and manage the IC, ICP, and EOC computer networks to ensure they are operational throughout an incident. • Provide communications equipment, as needed. • Coordinate and monitor requests for on-site communications assets. • Coordinate and monitor on-site communications support, as necessary. • Determine on-site operating frequencies. • Monitor communication networks; recommend limiting nonessential use of nets. • Maintain the communications log. • Coordinate communications with other appropriate entities. • Evaluate communications capabilities available to support the incident response. Make a recommendation to the IC/ICP/EOC Director on whether to request additional support. • Liaise with augmentation elements to coordinate communications procedures. • Monitor C4ISR status and advise IC/ICP/EOC Director as it changes. • Strategically plan for future phases.

Table B-1. Sample ESF Manager Roles (continued)

ESF	Name	ESF Manager Roles
No. 3	Public works and engineering	• Request and monitor the deployed damage assessment team when requested by the IC. • Ensure water and utilities are available for incident site support • Ensure that environmental expertise/technical assistance is available for the IC. • Ensure additional follow-on support is available if required. • Request follow-on elements from installation or civilian sources • Report public works and engineering activities to the EOC. • Strategically plan for future phases.
No. 4	Firefighting	• Request augmentation or mutual aid assistance before fire service capabilities are exhausted. • Per IC request, activate MOAs/MOUs with local/state/federal/HN fire and search and rescue assets for augmentation, not previously activated. • Monitor and obtain expendable equipment status from ICP. Request additional equipment as needed. • Strategically plan for future phases.
No. 5	Emergency Management	• Manage the overall operation of the EOC • Provide direct support to the EOC director • Submit incident situation reports to Higher HQs through the Installation Commander • Ensure the control and protection of classified material. • Keep detailed records/logs of decisions and events. • Coordinate support from additional response elements with local civilian Emergency Management Official . • Review and comment on incident lessons learned/after action reports. • Strategically plan for future phases.
No. 6	Mass care, housing, and human services	• Arrange for mass care. • Arrange disaster housing for displaced persons. • Arrange for human services. • Strategically plan for future phases.
No. 7	Resource Support	• Arrange resource support (e.g., facility space, office equipment and supplies, and contracting services). • Strategically plan for future phases.

Table B-1. Sample ESF Manager Roles (continued)

ESF	Name	ESF Manager Roles
No. 8	Public health and medical services	• Ensure emergency medical services are available, as necessary. • Report potential BW incidents to higher HQ. • Request assistance from outside sources, such as the CDC, to confirm diagnosis and to control the further spread of disease. • Ensure medical intelligence officer or NCO is available to provide medical intelligence information if needed. • Advise the IC/EOC/ICP on the status of medical treatment activities. • Coordinate with local medical forces for mutual assistance requirements on scene; activates appropriate procedures if during non-duty hours. • Serve as a liaison with the installation medical facility for on- and off-installation medical needs. • Strategically plan for future phases. • Establish contact with the MCC, Local EOCs and Higher HQ. • Ensure medical personnel are available to provide technical medical information and advice to the IC, including information on physiological effects of contamination. • Coordinate with local hospitals for bed availability. • Establish reach-back guidance and support from USAMRIID, USAMRICD, AFRRI, USACHPPM, and CDC. • Establish contact with local, municipal, state, and federal public health agencies, as required. • Establish contact with state/regional/local public health laboratories for LRN support, as needed • Strategically plan for future phases.
No. 9	Urban search and rescue	• Activate the Urban Search And Rescue Team • Dispatch team when requested by IC. • Strategically plan for future phases.
No. 10	Oil and HAZMAT response	• Activate installation Oil and HAZMAT resources and deploy to incident site when requested by IC • Request from local civilian agencies/higher HQ augmentation if the CBRN/HAZMAT team capabilities are exceeded. • Strategically plan for future phases.
No. 11	Agriculture and natural resources	• Advise the IC on natural and cultural resources, and protection/restoration of historic properties. • Strategically plan for future phases.

Table B-1. Sample ESF Manager Roles (continued)

ESF	Name	ESF Manager Roles
No. 12	Energy	• Deploy a damage assessment team when requested by the IC. • Ensure backup power is available to the incident site. • Provide functional expertise and assistance to the CBRN/HAZMAT team, as required. • Determine the need for additional follow-on support. • Assist with coordination among the IC, ICP, EOC, and other civil and/or military authorities involved with the response. • Strategically plan for future phases.
No. 13	Public safety and security	• Monitor incident site perimeter/cordon security. Deploy additional forces as requested by the IC/ICP. • Coordinate additional civilian Law Enforcement support as needed or requested by the IC/ICP. • Ensure safety of emergency responders and public through monitoring incident situation. Draft and provide safety notices for EOC Director's approval. • Ensure personnel in the immediate area are aware of any potential hazards coming from the site. • Monitor individual equipment items status, especially during CBRNE incidents. Request additional equipment and vehicles to meet the needs of incident site security personnel for sustained operations through the recovery phase. • Request augmentation support from the EOC Director; e.g. Installation commander approval needed to obtain non-emergency responder personnel support to maintain incident site perimeter/cordon security. • Monitor safe routes and advise emergency responders of recommended/needed changes to those routes. • Coordinate installation entry requests with appropriate control centers, agencies, and ESFs. • Strategically plan for future phases.

Table B-1. Sample ESF Manager Roles (continued)

ESF	Name	ESF Manager Roles
No. 14	Long-term community recovery and mitigation	• Conduct a social and economic community impact assessment. • Recommend long-term community recovery assistance to states, local governments, and private organizations and individuals that reside on the installation or are affected by an installation related disaster. • Conduct mitigation analysis and program implementation. • Alert and notify a SJA EOC representative to proceed to the incident site or designated assembly point and report to the IC. • Determine whether claims should be activated. • Provide advice and assistance to the installation commander, EOC, IC, and ICP members (as appropriate) on all legal issues arising from incident and the response, including issues associated with establishing an NDA; providing military support to civil authorities; and providing support to civil authorities. • Provide advice and assistance to responding security forces, as appropriate, including advice on chain of custody/evidence preservation issues. • If claims teams are mobilized, prepare estimates of damage and injuries, dollar estimates of third party-damage (if possible), Report the status of funds available at the installation, and determine potential need for advance payment and additional JA manning. • If appropriate, establish a temporary claims office in proximity to the incident site and advertise the location, operating hours, and availability of advance payments. • Strategically plan for future phases.

Table B-1. Sample ESF Manager Roles (continued)

ESF	Name	ESF Manager Roles
No. 15	External affairs	• Coordinate with Installation Operations Center (IOC) or Emergency Operations Center (EOC), ICP, and IC for probable timing and location of the establishment of the public information facility. • Activate the press center, as directed by the EOC Director or Installation Commander. Coordinate installation access. • Ensure Public Affairs representation at the Joint Information Center, if established. • Coordinate liaison with media representatives to provide accreditation, mess facilities, billeting, transportation, and escorts, as authorized and appropriate. • Ensure PA liaison and spokesperson is available to the Incident Commander in order to respond to public requests for information. • Coordinate media access regarding the incident. • Coordinate and monitor movement of news media personnel ensuring press passes, escorts, etc. are available. • Coordinate media requests for photographs, interviews, and biographical and other data. • Answer community concerns and deal with the news media at the incident site. Recommend and coordinate an emergency information line/rumor control line. • Prepare, coordinate, and disseminate public information alerts. • Ensure information for public dissemination is reviewed for compliance with security and policy requirements. • Coordinate all public information drafts with the installation commander or the commander's designated representative. • Obtain approval from the installation commander for news releases; the release of photographs of suspects, victims, and the immediate scene; interviews with anyone other than the commander; and direct communication with press personnel and suspects. • Make news release(s) available. • Report the facts concerning the CBRN incident/attack, the government investigation, apprehension of terrorists, recovery operations, and other stories of interest to the public, as appropriate. • Strategically plan for future phases.

Appendix C
INSTALLATION CBRN CHECKLISTS

1. Background.

This appendix addresses two areas. First, installation CBRN checklists and the described actions are provided. The checklists support furnishing an integrated, cross-functional response. Second, this appendix describes representative coordination and information activities that should occur between the installation and tenant and transient units on an installation.

2. Checklists

The CBRN checklists are separated into the following categories:

- Planning and Preparing (see Table C-1). The planning and preparing checklists are combined into one table, as planning and preparatory actions overlap.
- Response (see Table C-2, page C-4).
- Recovery (see Table C-3, page C-6).

Table C-1. Planning and Preparatory Actions

Individuals
Attend Level I AT training course and ensure that accompanying dependents 14 years or older attend course prior to leaving CONUS.
Train to proficiency on all individual CBRN protection tasks.
Leaders (All)
Attend Level II/III AT training course, as appropriate.
Ensure personnel immunizations are up-to-date.
Reinforce individual CBRN survival tasks through continuous training.
Collective (Unit, Team, or Cell)
Participate in CBRN emergency response exercises.
Prepare and maintain personnel, equipment, and supplies fully capable of performing required tasks associated with CBRN/TIM event activities.
Identify CBRN response augmentees in the unit/team/cell by name and have them participate in exercises with the supporting element, as required.

Table C-1. Planning and Preparatory Actions (continued)

Installation Commander
Attend Level III/IV AT training course, as appropriate.
Ensure that responsibilities, resources, and requirements are identified for a successful installation CBRN emergency response plan. Review the CBRN emergency response program and plans at least annually to ensure compliance with standards.
Ensure that the installation CBRN emergency response plan addresses security and/or possible evacuation of DOD personnel and their dependents.
Authorize and direct an evaluation of the CBRN response program to be conducted in order to establish a baseline for the installation. Ensure that the evaluation identifies equipment, personnel, training, exercise requirements, and MAAs needed to coordinate additional response capabilities from local/state/federal/HN organizations
Ensure that a CBRN exercise is conducted annually using realistic CBRN scenarios to validate the CBRN emergency response plan.
Designate an emergency disaster planning officer with CBRN emergency response program management responsibilities.
Align installation exercise and training schedules with local/state/federal/HN CBRN exercises.
Coordinate CBRN emergency efforts on the installation with local/state/federal/HN emergency responders to ensure interoperability.
Direct and ensure that a viable health protection program is established, equipped, and trained.
Direct and ensure that MOAs are coordinated with local/state/federal/HN authorities and that cohesive working relationships are established and maintained through training and sharing of information.
Review MOAs annually to ensure that local/state/federal/HN sufficiency exists in meeting agreed-upon installation emergency response needs.
Review SOFAs and other international agreements affecting CBRN responses and local/state/federal/HN emergency response capabilities.
Installation IOC/EOC Director
Ensure that the installation CBRN emergency response CONOPS includes the establishment of an ICS.
Determine a primary and backup location for the IOC/EOC. Incorporate collective protection systems in facility.
Identify primary and alternate IOC/EOC personnel.
Establish operating procedures for the IOC/EOC, including duties and responsibilities of staff, communication, reports, and timelines for notification to higher HQ.
Establish and maintain current emergency response notification rosters, including rosters of all off-post response agencies. Brief the installation commander on all changes to the rosters.
Establish and ensure the implementation of automated CBRNWRS using preformatted or preaddressed messages for local/state/federal/HN reports. Ensure that personnel are trained on CBRNWRS and networks.
Develop a CBRN emergency response plan that integrates facilities, equipment, training, personnel, and procedures for crisis management and response operations into a comprehensive effort designed to provide the appropriate protection to personnel and critical missions on the installation.
Develop a system for rapid distribution of available CBRN/TIM escape masks to all personnel (military, civilian, dependent) on the installation.

Table C-1. Planning and Preparatory Actions (continued)

Installation IOC/EOC Director
Integrate response functions into the CBRN emergency response plan, including preparedness, public affairs, legal counsel, public works and safety, chaplain services, mortuary affairs, and resource management.
Utilize the most current TIC information from ITF-25 and ITF-40 and site surveys to determine installation priorities for protection from TIM.
Annually identify the full range of known or estimated terrorist capabilities and the possibility of nonhostile incidents for use in conducting VAs and planning countermeasures.
Examine the CBRN emergency response programs and assess written plans and programs designed to support preincident planning, emergency response, medical needs, equipment, law enforcement, training, intelligence support, security, and postincident response.
Examine the availability of resources to support plans as written and the frequency and extent to which CBRN emergency response programs have been exercised. The assessment should determine the status of formal and informal agreements with supporting organizations using an MOU, MOA, inter-service support agreement, host-tenant support agreement, etc.
CBRN VAs should address the IOC, fire and emergency services, medical services, CBRN/HAZMAT team, law enforcement and security personnel, and bomb technicians.
Ensure that CBRN VA includes an inventory of assets on the installation and resources available through mutual-aid assistance with outside communities.
Include participants from all emergency-response functions on the installation and whenever possible, appropriate local/state/federal/HN organizations in exercises.
Incorporate lessons learned from installation emergency response CBRN exercises into the overall installation FP plans.
Identify responsibilities, resources, and requirements needed for successful execution of the installation CBRN emergency response program and integrate these into the plan.
Collect and prioritize installation CBRN emergency response resource requirements for the POM submission.
IOC/EOC CBRN Cell
Coordinate storage, issue, movement, and maintenance of installation CBRN equipment and supplies.
Conduct periodic inventories of CBRN response equipment.
Ensure that installation emergency response equipment is interoperable with equipment used by local/state/federal/HN mutual-aid partners according to DODI 2000.18, whenever possible.
Ensure that a personnel identification and accountability system is established for all response teams to operating at the incident site.
Monitor CBRN/perimeter surveillance devices according to the installation emergency response plan.
Incident Commander/On-Scene Commander
Attend the IC course.

Table C-2. Response Actions

Individuals
Watch for CBRN attack indicators.
Minimize skin exposure.
Proceed immediately to designated shelters and/or assume and maintain MOPP as directed.
Check self/assets for contamination.
Report in for personnel accountability.
Listen for instructions.
Operationally decontaminate self/assets.
Leaders (All)
Disseminate threat and emergency action information, protective measures, and other incident information.
Direct the covering of mission-essential equipment.
Protect facilities by closing all windows and outside air intake, turning off ventilation systems, etc. at the time of attack and implementing single-entry procedures.
Maintain a log of events to document emergency response actions.
Collective (Unit, Team, or Cell)
Initiate personal protection and accountability measures.
Assemble and dispatch unit personnel, as required.
Installation Commander
Initiate increased FPCONs, as necessary.
Monitor all on-scene actions.
Ensure that local/state/federal/HN officials are notified and updated as the situation requires.
Determine if a public health emergency exists on the installation, based on information provided by the PHEO. If it does determine whether the emergency powers listed in paragraphs 4.6. and 4.7., DODD 6200.3, should be implemented.
Decide if and when evacuation of installation facilities is appropriate.
Authorize requests for augmentation, as necessary.
IOC/EOC/CBRN Cell
Activate the IOC/EOC alert procedures and installation alert rosters and recall procedures for the various emergency response teams.
Set up an incident information center for coordination.
Establish and maintain communications with the IC and other responders.
Obtain the initial report from responders and determine the location of the incident.
Track and plot initial incident information on an installation map.
Integrate information from CBRN/HAZMAT team, medical, security, and intelligence assets.
Track and maintain the status of the situation, including record event casualty summary, damage summary, weather status, evacuation status, area closing status, shelter facility status, resources or equipment status, medical facility (base and local) bed availability, and the status of response to contracts or agreements for services.
Activate the installation warning systems. Notify the base populace by emergency alert system or MARS, radio or television, mass notification systems within buildings, the 'Big Voice' outdoor sirens, or other predetermined means in order to direct proper procedures to avoid the incident site (by either evacuating or SIP).
Establish and maintain communication links with higher, lateral, and lower elements.

Table C-2. Response Actions (continued)

IOC/EOC/CBRN Cell
Activate appropriate elements of the MAAs and monitor augmentation from civilian and military forces.
Notify the appropriate EOD control center of the need for EOD support, if required. Coordinate with the transportation representative to provide movement of EOD personnel with special EOD tools and equipment to the incident site by the most rapid transportation mode available, to include military and commercial charter aircraft.
Receive and send orders, information, reports, and requests pertinent to the incident to subordinate commands/agencies, higher HQ, and outside civilian agencies. Serve as the central tasking office for all internal and external taskings regarding the incident.
Issue changes to the FPCON level as directed by the IC.
Maintain an incident log.
Continuously monitor with CBRN/perimeter surveillance devices according to the installation emergency response plan.
Provide COP to the installation commander, IC, other installation offices, and local/state/federal/HN agencies, as required.
Track response assets and effectively manage resources.
Request additional resources to support response through recovery, as necessary.
Incident Commander/On-Scene Commander
Locate and assess the incident site.
Assume command of on-scene operations and perform IC duties until relieved of duties (after security and response forces have neutralized all hostile force terrorist activity).
Establish assembly areas for the incident response team members in a controlled environment and ensure that initial preparation of the incident and team-leading procedures are conducted.
Mark contaminated areas to prevent casualties and the spread of the hazard.
Determine the initial cordon size, based on the type and quantity of material involved at the incident.
Identify safe routes for follow-on forces
Assemble and account for all incident response team members and augmentees.
Establish and ensure that all responders operating in the contaminated areas have the appropriate protective clothing and equipment available and are trained and medically cleared to respond.
Notify all nonessential personnel to evacuate from the incident site.
Ensure that personnel working at the incident site understand all safety procedures for work-rest regimes and protective measures against climatic conditions. Ensure that personnel have adequate food and water and are aware of the location and use of sanitary facilities.
Ensure that comprehensive control, decontamination, and medical intervention activities are in place prior to any response team entry into the contaminated area.
Advise team members to look out for secondary devices such as IEDs/booby traps.
Determine if the incident is a crime scene and initiate procedures to preserve evidence, if required.
Establish initial hot, warm, and cold zones.
Conduct contaminated casualty extraction, in coordination with installation fire and emergency services. Provide triage and emergency medical service, if required.
Search for secondary devices in coordination with EOD.
Detect CBRN hazards.
Identify the CB agent.

Table C-2. Response Actions (continued)

Incident Commander/On-Scene Commander
Collect aerosol, environmental, plant/animal, and medical samples.
Prepare and forward samples to the laboratory for further analysis and identification.
Establish exposure limits and stay times in the area for wearing protective equipment based on agent type, concentration (if known), and ambient temperature. Rotate personnel based on exposure levels and stay times.
Conduct a survey to analyze agent transfer and spread.
Submit incident SITREPs to IOC/EOC.
Maintain continuous communication with the IOC/EOC and provide updates as the situation changes.
Transfer control of the site to the lead agency, as directed. Provide a detailed SITREP to include the product released, operations taken or in progress, call signs, all resources on site, additional resources on call or enroute, and any other considerations.
Ensure the control and protection of classified material.
Keep detailed records of decisions and events.
Accurately record HAZMAT exposure for personnel. Keeping accurate records enables the tracking of long-term health effects on those exposed to HAZMAT.
Coordinate support from additional response elements through higher HQ.
Coordinate with augmentee personnel, follow-on elements, and others who will provide support at the incident site.
Coordinate with the relieving IC when he arrives at the incident scene. Brief the new IC on the situation, including the organization under IC control.

Table C-3. Recovery Actions

Individuals
Avoid potentially contaminated surfaces and areas.
Obtain and report observations and evidence of an attack.
Provide input, as required, to incident AARs.
Return IPE to a ready status in anticipation of another attack.
Leaders (All)
Ensure that unmasking procedures are carried out according to the SOP.
Monitor personnel for unusual physical conditions or symptoms.
Document exposures.
Collective (Unit, Team, or Cell)
Ensure that personnel, equipment, and supplies are prepared to perform required tasks associated with another CBRN/TIM event.
Develop and provide input to incident lessons learned/AARs.
Installation Commander
Oversee recovery operations on the installation.
Review and approve necessary reports following the incident, including lessons learned and AARs.

Table C-3. Recovery Actions (continued)

Installation IOC/EOC/CBRN Cell
Coordinate activities of follow-on elements.
Monitor recovery operations and support the needs of the installation commander.
Coordinate input to the incident lessons learned/AAR.
Write the installation AAR based on input from various functional areas.
Incident Commander/On Scene Commander
Assess the incident site for any remaining hazards and determine the mitigation actions needed. Advise the IOC/EOC and installation commander.
Provide HAZMAT support to the IOC/IC through recovery.
Develop and provide input to incident AARs.
Individuals
Report unusual physical conditions or symptoms.
Leaders (All)
Monitor personnel for unusual physical conditions or symptoms.
Document exposures.
Collective (Unit, Team, or Cell)
Reconstitute unit/team/cell personnel, equipment, and supplies until fully capable to perform the required tasks associated with CBRN/TIM event activities.
Installation Commander
Oversee recovery and reconstitution operations on the installation.
IOC/EOC CBRN Cell
Ensure that installation emergency response equipment is decontaminated or replaced.
Ensure that CBRN filters are replaced after exposure.

3. Installation Tenant and Transient Unit Coordination

Maintaining effective coordination and liaison between the installation, tenant, and transient units is the responsibility of all those concerned. This appendix addresses a representative list of information and coordination measures that a tenant or transient unit should share with an installation on a mutual basis.

a. Common Considerations. Adequate preparation and coordination is key to the success of the liaison and coordination activity between the installation and a tenant or transient unit. Coordination must be an integral part of the planning process, and the tenant and transient units must fully understand the installation commander's emergency response plan. Common understandings between the installation commander and tenant and transient units include the following:

(1) Understanding each mission, the coordination and liaison functions, the commander's expectations, and the specific responsibilities between various organizations on the installation.

(2) Becoming familiar with potential issues of the installation (e.g., shortage of first responder resources), including specific issues and CBRN information requirements for the installation staff.

(3) Knowing the current installation situation (e.g., threat level, CBRN VA, and emergency response capabilities), including the respective organizational commander's intent, commander's critical information requirements (CCIRs), and the commander's CONOPS.

(4) Coordinating with each other to determine if there are any special requirements, including CBRN equipment, operations security (OPSEC) applicable to the mission, arrangements for communications and transportation, credentials for identification, appropriate security clearances or documents, or any peculiar requirements (language, interpreter, customs, etc.) associated with multinational units, if applicable.

(5) Understanding the communications connectivity and software requirements for CBRN warning and reporting.

(6) Becoming familiar with capabilities, the emergency response plan, and SOPs.

(7) Exchanging information on national customs and procedures, if an assignment requires becoming a tenant or transient on an allied HQ installation.

(8) Preparing command-specific capabilities and limitations briefings (including such topics as combat readiness factors, personnel strengths, logistics considerations, and map overlays) for mutual presentation.

b. Installation Coordination With a Tenant or Transient Unit. Upon arrival at an installation, the tenant or transient unit CBRN representative should proceed to the HN OPCEN. Specific coordination measures and information exchange that the installation should provide to the tenant or transient unit may include operational, intelligence, and logistics information (see Figure C-1).

- Reviewing during- and postattack actions, checklists, plans, and concepts, such as—
  - ✓ Postattack reconnaissance.
  - ✓ Installation sector/control zones, boundaries, and transition point locations.
  - ✓ Decontamination points and tenant/transient unit responsibilities.
  - ✓ Contamination avoidance checklist items, such as sheltering locations for equipment.
  - ✓ Contamination control areas and TFAs.
  - ✓ FHP actions (e.g., patient decontamination responsibilities).
  - ✓ Casualty handling.
  - ✓ The processing of contaminated remains and hazardous wastes.
  - ✓ The replacement of personnel.
- Reviewing the implement blackout procedures for areas, sectors, facilities, buildings, airfields, vehicles, flashlights, aircraft, weapons systems, etc.
- Reviewing quarantine, ROM, and isolation plans.
- Planning for the integrated use of CBRN reconnaissance, surveillance, and monitoring assets, to include detectors and detector teams.
- Planning for integrated dispersal or sheltering of critical equipment and vehicles, such as—
  - ✓ Aircraft and weapons systems.
  - ✓ Maintenance equipment.
  - ✓ Fire and crash vehicles and systems.
  - ✓ Base recovery equipment and systems.
  - ✓ Security equipment, vehicles, and systems.
  - ✓ Casualty and patient care medical equipment.
  - ✓ Fuel trucks.
  - ✓ Munitions trailers.
  - ✓ Generators.
  - ✓ Special-purpose vehicles.
  - ✓ CBRN reconnaissance team vehicles.
  - ✓ EOD vehicles.
  - ✓ Ambulances.

Figure C-1. Sample Installation-Level CBRN Coordination With a Tenant or Transient Unit

- Reviewing the plan for Dispersal or sheltering of personnel, to include—
  - ✓ Leadership.
  - ✓ Intelligence support.
  - ✓ Installation recovery teams (EOD, medical, CBRN reconnaissance, damage assessment, etc.).
  - ✓ Security teams.
- Identifying installation actions with respect to dispersal, issue, or shelter-critical supplies, to include—
  - ✓ Food.
  - ✓ Water.
  - ✓ Medicine, CBRN pretreatment drugs, prophylaxis medications, antidotes, and other medical supplies, as directed.
  - ✓ CBRN prophylaxis, as directed.
- Providing information on the installation's exposure control systems.
- Providing guidance on when to administer pretreatments, prophylaxis, and antidotes.
- Providing information on what resources (if available) can be allocated for protecting and hardening CBRN C2 centers, CCAs, and sites where CBRN assets have been dispersed.
- Providing information on the installation's cover, concealment, and deceptions operations, as required, to include—
  - ✓ Smoke and obscuration.
  - ✓ Camouflage netting.
  - ✓ Decoys.
  - ✓ Radar reflectors.
  - ✓ Other systems and methods.

Figure C-1. Sample Installation-Level CBRN Coordination With a Tenant or Transient Unit (continued)

- Allocating resources to support hardening or splinter-protect vital assets using steel bin revetments, sandbags, earth berms, concrete revetments, or other expedient methods, to include—
  - ✓ C4I systems, operations, and centers.
  - ✓ COLPRO facilities.
  - ✓ Utility generation and distribution systems.
  - ✓ War reserve materiel.
  - ✓ POL storage and distribution points.
  - ✓ Munitions storage, assembly, and loading assets and centers.
  - ✓ Supply storage.
  - ✓ Medical facilities.
  - ✓ CCAs.
- Providing assistance, if required, on inspecting all CBRN equipment, such as—
  - ✓ CBRN detection and COLPRO systems.
  - ✓ IPE.
  - ✓ Decontamination.
  - ✓ CCAs and contamination avoidance gear.
- Providing information on the MOPP guidance (e.g., should MOPP gear be immediately available?).
- Briefing units on CCA and casualty collection point locations.
- Briefing units on contaminated waste disposal locations according to applicable environmental considerations and procedures**.**
- Briefing units on preparing shelters and COLPRO facilities for occupancy and operations.
- Briefing units on reporting shelter status (stocking, number of personnel, and problems) to command centers
- Providing information on duress codes, if applicable.
- Providing guidance on pre-positioning CBRN detection equipment and activating detection systems, such as—
  - ✓ M8 paper on facilities, vehicles, revetments, bunkers, defensive fighting positions, etc.
  - ✓ M9 tape on chemical-protective overgarments.
  - ✓ Detector kits at designated locations (with designated teams).
  - ✓ Other CB detection equipment at designated locations.

Figure C-1. Sample Installation-Level CBRN Coordination With a Tenant or Transient Unit (continued)

- Implementing exposure control systems.
- Identifying CBRN defense required capabilities for assigned missions.
- Preparing sample evacuation plans.
- Exercising contingency plans.
- Determining the locations of all known nuclear facilities and radioisotope resources (e.g., hospitals and clinics with nuclear medicine capabilities and industries with isotopic weld-testing sources).
- Determining the locations of hospitals, clinics, and MTFs.
- Determining what radiation detection equipment is within the AO and to whom it belongs (commercial vendor, government, government agency, or HN).
- Determining the distribution of military radiation measuring instruments to deploying units.
- Determining the disposition of specialized radiation survey teams; identifying the contractual expertise available to negotiate any required civil medical or technical support.
- Determining if friendly or enemy equipment and ammunition containing DU or other radioactive materials are likely to be present.
- Determining the locations and functions of high-priority TIM facilities and associated chemical product lines and storage**.**
  - ✓ What are the operational levels, security, and infrastructure associated with these TIM facilities.
  - ✓ What storage volumes are associated with these TIM facilities?
  - ✓ What possible or potential environmental contamination exists?
  - ✓ What hydrological, MET, and topographical geospatial data exist for these facilities?
- Determining the local hazard management procedures and identifying civilian agencies responsible for handling incidents.
- Determining what local hazard identification labeling and placarding systems exist.
- Determining the status of the distribution of military CBRN detection equipment to deploying units.
- Determining the disposition of specialized CBRN and TIM reconnaissance teams and equipment.
- Determining the disposition of IPE and CPE.
- Identifying the need for special or modified CBRN or TIM detection equipment or protective equipment.

Figure C-1. Sample Installation-Level CBRN Coordination With a Tenant or Transient Unit (continued)

c. Tenant or Transient Unit Coordination With the Host Installation. Upon arrival at an installation, the tenant or transient unit CBRN representative should proceed to the host installation OPCEN. Specific coordination measures and information exchange that the tenant or transient unit should provide to the installation may include operational, intelligence, and/or logistics information. See Figure C-2.

- Providing information and status on the unit CBRN defense capabilities and functions to include—
  - ✓ Available equipment and supplies that could have a dual-purpose capability (e.g., pumps) and could be used for CBRN defense.
  - ✓ Personnel resources.
  - ✓ Specialist personnel (e.g., CBRN specialists).
  - ✓ Decontamination capability.
  - ✓ CBRN reconnaissance capability.
  - ✓ Biological defense (detection, protection, and decontamination) capabilities.
  - ✓ Medical capabilities (prophylaxis and support).
  - ✓ Engineer capabilities (equipment).
  - ✓ Individual protection capabilities.
  - ✓ Collective protection capabilities.
  - ✓ Fire fighting and specialized emergency support.
  - ✓ Unit mobility status.
- Providing information on the ability of unit communications to integrate with the installation CBRNWRS.
- Providing information on the unit mission and schedule (e.g., how long will the unit be at the host installation).
- Providing information on the unit emergency response plan.
- Providing information on unit POCs and functions.
- Providing information on security capabilities.
- Providing information on mass-casualty management capabilities.
- Providing information on response-time ability (e.g., ability to respond with an emergency team).
- Providing information on the unit's ability to contribute resources to the installation emergency response plan.
- Identifying unique service tactics, techniques or procedures that will require familiarization training for tenant or transient unit personnel from the host installation.

Figure C-2. Tenant or Transient Unit Level CBRN Coordination With an Installation

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Appendix D

FORCE HEALTH PROTECTION CAPABILITIES, RESTRICTIONS, AND CONSIDERATIONS

1. Background

FHP at installations may be provided by an MTF established in permanent structures (garrison-type organizations, ports, and airfields) or deployable FHP units. At CONUS locations, the primary source of FHP is the garrison organization with deployable FHP units assisting. At OCONUS locations, a combination of deployable units and garrison organizations serves as the primary FHP provider.

2. Preventive Medicine and Public Health Services

Preventive medicine (PVNTMED), public health services and other specialized teams, perform a variety of tasks in support of CBRN defense of installations. personnel perform a variety of tasks in support of CBRN defense of installations. In some cases, PVNTMED and public health services personnel may be requested to collect environmental samples for identification of CBRN contamination or risk assessment. In such cases, presumptive identification procedures are conducted by the collectors or by a designated laboratory. Chain of custody is established for the samples and the samples are forwarded by courier to the supporting laboratory. See *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear (CBRN) Reconnaissance, Multiservice Tactics, Techniques, and Procedures for Biological Surveillance,* FM 4-02.7, and FM 4-02.17 for detailed information. In cases where other groups/personnel are designated to obtain CBRN samples, PVNTMED/public health services personnel must be coordinated with it, in order to ensure that medical and OEH requirements are met. This includes involvements in final clearance level decision-making. The following describe key tasks that are direct medical and OEH responsibilities of PVNTMED/public health services.

a. Medical Surveillance. Medical surveillance is the ongoing daily systematic collection, analysis, and interpretation of data derived from instances of medical care or medical evaluation and the reporting of population-based information for characterizing and countering threats to a population's health, well being, and performance. Preattack/pre-event medical surveillance data collected provides a baseline for disease and nonbattle injury (DNBI) rates for the area. This baseline data provides essential information concerning which diseases are endemic to the area and the expected rates of illnesses. This can help medical personnel rule out endemic disease from diseases caused by an intentional BW event or determine whether increased rates of illness might be associated with chemical or radiological exposures. After an attack/event, or when a spike in illness above the baseline occurs, PVNTMED/public health services personnel must begin collecting data on: the numbers, signs, and symptoms of affected and unaffected persons; the possible source of the illness; and the movement of personnel. They analyze the data and prepare recommendations about how the commander can best reduce the effects of the attack/event and prevent new casualties. See DODD 6490.2 and DODI 6490.3 for medical surveillance requirements.

See JP 4-02 and FM 4-02.17 for detailed information regarding the conduct of medical surveillance activities.

b. Occupational and Environmental Health (OEH) Surveillance. OEH surveillance is the regular or repeated collection, analysis, archiving, interpretation, and dissemination of OEH-related data for monitoring the health of, or potential health hazard impact on, a population and individual personnel, and for intervening in a timely manner to prevent, treat, or control the occurrence of disease or injury, when necessary. Collection of OEH data on service members potentially exposed to CBRN agents/weapons is required for ensuring their continued care for post-exposure illnesses. Specifically, this includes documentation of the levels/durations of (unprotected) exposure to the specific CBRN hazard as well as any other existing hazards associated with are pollution or occupational exposures. Determination of baseline data regarding environmental pollution and unique occupational exposure should be coordinated through environmental or industrial hygiene personnel. If civilians are exposed to the agent/weapon at the site, similar documentation is necessary to ensure their medical needs are identified. See DODD 4715.1E, and DODI 6055.1 for OEH surveillance requirements and FM 4-02.17 for detailed information on the conduct of the OEH program. See DJSM-0612-03, Memorandum on Improving Occupational Health Surveillance (OEHS) Reporting and Archiving. Ensure that all significant action and associated items (response, documentation) are completed according to JCS Memo, MCM-0026-02 (Chemical Warfare Agent Exposure Planning Guidance) and JCS Memo, MCM-0006-02 (Documentation). Ensure that ASTM standards are met for environmental health surveillance assessments.

c. Casualty Prevention. Personnel whose primary duty involves responding in a CBRN environment should be issued the appropriate medical countermeasures. Issue of medical countermeasures should be consistent with theater policy. Based on the threat, nerve agent antidotes, blocking agents, vaccinations, and antibiotics can be provided to personnel. FM 4-02.7 provides additional information.

d. Water Surveillance. PVNTMED and public health services personnel conduct surveillance of water supplies on a continuous basis before, during, and after a CBRN event to ensure that the water is safe for consumption. Surveillance includes the source, treatment, and distribution system. If CBRN contamination is found, samples are collected, chain of custody is established, and the samples are forwarded by courier to the supporting laboratory. Analyses may include water and ice samples. The water production and treatment personnel are advised of the findings with recommendations on how to best render the supply safe for use. See FM 4-02.7 and FM 4-02.17 for additional information.

e. Food Service Surveillance. Food-service surveillance (during and after a CBRN event) is critical in ensuring that personnel have a safe food service facility and food source. The facility must be thoroughly inspected for possible contamination. Should contamination be found, veterinary personnel should be contacted for evaluation of the food supplies and determination of food safety. The facility must be closed and thoroughly decontaminated before proceeding to prepare and serve food to supported personnel. See FM 4-02.7, FM 4-02.17, and FM 4-02.18.

f. Waste Disposal (Liquid and Solid) Monitoring. PVNTMED and public health services personnel should ensure that wastes are properly collected, stored, and disposed of to mitigate potential exposures and safety hazards to military or civilian personnel. This may include making recommendations as to criteria for identifying hazardous waste, should a CBRN event occur (see FM 4-02.7 and FM 4-02.17 for additional information).

3. Laboratory Support

Laboratory support for processing specimens and samples may come from a variety of sources. Initial sample/specimen processing and presumptive identification will normally be performed by sample/specimen collection personnel and laboratory personnel near the incident site. The laboratory may be a DOD, local, regional, state, HN, or coalition force facility. The use of the test results from these facilities (especially HN and coalition force facilities) may be limited and they must be validated by a nationally recognized reference laboratory (e.g. USAMRIID, CDC, NMRC) for confirmatory identification and definitive characterization of the agent/material. The presumptive identification and/or field confirmatory identification by supporting laboratories provide leadership with valid information that can be used to initiate protective, preventive, and initial casualty care procedures. However, definitive identification and characterization may be required for forensic and retaliatory actions.

a. Clinical Laboratory. MTF personnel collect appropriate clinical specimens from affected and suspected personnel for laboratory testing. The organic clinical laboratory within Services' hospitals may be capable of performing presumptive identification or field confirmatory identification, if laboratory equipment is available (i.e., JBAIDS). Chain of custody is initiated by MTF personnel, and the specimens are referred to reference (confirmatory) laboratories for confirmatory testing. If required, reference laboratories will send isolates to LRN national laboratories for definitive (forensic) characterization. Clinical laboratories are not designed to be testing sites for environmental samples. Generally, public health laboratories are the preferred locations for environmental testing.

b. Laboratory Response Network (LRN). The LRN is a multilevel system, in CONUS and some OCONUS laboratories, that is designed to link front-line hospital and state public health microbiology labs with federal and military reference labs supporting advanced capabilities in testing human, veterinary, food, and environmental samples. Medical labs participating in the LRN employ common SOPs and reagents to process and identify potential BW threat agents. Upon obtaining a presumptive identification, clinical laboratories at community hospitals, referred to as LRN Sentinel labs, refer presumptively identified isolates to LRN reference laboratories for confirmatory identification. Upon confirmation of the identification at LRN reference labs, the samples/specimens may then be referred to LRN national laboratories for forensic testing and definitive characterization. The Food Emergency Response Network (FERN), which has a similar multilevel system as LRN, tests food and bottled water for CBRN threats.

c. Other Non-DOD Laboratories.

(1) CDC. The CDC is a nationally-recognized reference laboratory providing definitive identification of suspect biological agents. The CDC is available to support installation leadership with a broad-spectrum of laboratory support.

(2) HN. HN laboratory support may be provided through mutual agreements. However, the level of laboratory support may be limited and the laboratory personnel may not have up-to-date technology and training.

(3) Coalition Force. Presumptive identification of possible CBRN agents/material may be provided by coalition forces laboratory personnel. Again, their level of training and status of their equipment may be limited.

d. Other DOD Laboratories.

(1) USAMRICD. USAMRICD can provide laboratory support for the identification of chemical warfare (CW) agents from human specimens and technical guidance on prevention, protection, and medical management of CW agent injuries.

(2) AFRRI. AFRRI can provide technical and laboratory support for nuclear and radiological incidents or events. They can provide identification on the type of radiological hazard that exists and provide recommendations on shielding, hazard levels, and preventive measures. However, their laboratory support capabilities are very limited.

(3) Area Medical Laboratory (AML). The AML is a deployable USA medical laboratory that can provide presumptive and confirmatory identification of suspect CBRN agents/material. The AML has the capability to detect multiple biomarkers in a suspect sample/specimen; thus, providing positive identification of the agent. See FM 4-02.12 and FM 4-02.7 for more information.

(4) USAMRIID. USAMRIID is the DODs highest national reference laboratory for performing definitive identification of biological agents. USAMRIID can also provide technical guidance on prevention, protection, and medical management of BW agent injuries and infectious diseases.

(5) US Army Center for Health Promotion and Preventive Medicine (CHPPM). CHPPM can provide technical and laboratory support for TIC and provides health risk assessment SME for CW, TIC, biological and radiological hazards on behalf of the US Army Office of the Surgeon General. The website is http://www.chppm.com.

(6) Navy Environmental and Preventive Medicine Unit (NEPMU). The NEPMU and the Navy Disease Vector Ecology Control Center (NDVECC) are strategically located at installations around the world to meet FHP requirements and to perform confirmation identification of samples/specimens. Forward-Deployable Preventive Medicine Units (FDPMUs) have deployable teams with the capability of performing field confirmatory identification of samples/specimens.

(7) Navy Environmental Health Center (NEHC). The NEHC provides functional oversight of the laboratory services associated with field activities.

(8) NMRC. NMRC is a premier research organization that is one of DOD's nationally recognized reference laboratories that can provide definitive identification of biological agents. The Biological Defense Research Directorate (BDRD) of the NMRC serves as a national resource providing testing and analysis for the presence of anthrax and other potential biological hazards.

(9) USAF Institute for Occupational Health. USAF Institute for Occupational Health (radiochemistry laboratory) can provide definitive identification of radiological samples. The website for the radio-chemistry laboratory is: http://www.brooks.af.mil/afioh/Laboratories/sdrr_mission.htm

(10) USAF Bioenvironmental Engineer (BEE) Units. USAF bioenvironmental engineer units can provide field confirmatory identification of CBR agents.

(11) USAF Biological Augmentation Team (BAT). The BAT can provide commanders with field confirmatory identification with rapid, specific pathogen identification.

(12) Homeland Defense Laboratory Response Team (HLD-LRT). The USAF's HLD-LRT can provide rapid identification of potential biological agents. This resource is available at select USAF bases in CONUS and their equipment and protocols are similar to the BATs.

(13) The DOD food Analysis and Diagnostic Laboratory (FADL) and Veterinary Laboratory Europe. These laboratories have specific methodologies for testing food, bottled water, and commercially procured ice; they can provide technical and laboratory support in identification of pathogens, adulterants, and certain CBRN agents. The FADL can provide laboratory support in identification of animal/zoonotic diseases. These laboratories are accredited by the American Association for Laboratory Accreditation; the FADL is a member of the FERN laboratory network. The FERN website is http://vets.amedd.army.mil/vetlab.nsf.

4. Veterinary Medical Care

The US Army Veterinary Corps, under the direction of the Secretary of the Army and supervision of the Surgeon General of the Army, is the DOD executive agent for veterinary service for all the Services. Under CBRN conditions, veterinary service personnel will monitor food and bottled water for contamination (food safety and food security); provide veterinary PVNTMED; and provide veterinary medical care for government owned animals. For additional information regarding policies and capabilities, refer to MEDCOM REG 40-28 and MEDCOM PAM 40-13. On USAF bases, public health personnel perform food surveillance and bioenvironmental engineering personnel perform sampling for health risk assessment. In USN operations, PVNTMED, and other medical personnel may be required to perform food surveillance and sampling operations. See FM 4-02.7 and FM 4-02.18 for additional information.

a. Food Safety and Food Security. Whether in garrison or in a deployed environment, constant protection of food supplies is critical to the operation. Veterinary personnel monitor the food (including food-producing animals) for possible CBRN contamination and provide recommendations on how to best decontaminate it or if it must be destroyed. The operational commander has the ultimate responsibility for deciding if the food will be decontaminated or destroyed using risk assessments described in paragraph 3-10, FM 4-02.18.

b. Veterinary Medical Care. The CBRN environment may limit the level of care that can be provided for government owned animals. Veterinary personnel must locate an area outside the contaminated environment to provide essential care and decontamination. Veterinary personnel may also be called upon to provide care to privately owned pets and food-producing animals.

c. Veterinary PVNTMED. Veterinary personnel are responsible for performing investigations of unexplained animal deaths to include livestock and wildlife. They also monitor and evaluate safety of animals exposed to CBRN agents or TIM. Samples and specimens collected from animals will be forwarded to a supporting laboratory for testing; however, the veterinary unit may posses some organic testing capabilities for presumptive identification. In addition, the disposition of dead animals found on a military installation is an installation engineering directorate responsibility and is accomplished according to local policy and directives. Federal, state, and local health hazard standards, including environmental restrictions regarding the animal's disposal, will be the minimum standards.

5. Mass Casualty Management

Mass casualty (MASCAL) management requires greater numbers of medical treatment personnel to provide emergency care. A MASCAL situation exists when the number of patients requiring care exceeds the capabilities of available medical personnel or resources. In either situation the medical responders must make snap decisions on how to best manage the casualties to provide the best care for the greatest number. When the casualties do not have PPE, they must be removed from the contaminated area as quickly as possible. This must be balanced with a realization that failure to decontaminate the patient could potentially expand the area of contamination exponentially.

a. On-Scene Initial Treatment.

(1) Initial treatment for a MASCAL situation at the incident scene requires triage procedures be performed rapidly to determine if patients require emergency medical treatment before decontamination or if they can survive decontamination before receiving treatment. Patients should be medically stable before undergoing patient thorough decontamination; those not wearing MOPP ensemble may have a greater exposure to the agent and may require more medical attention. Medical care before decontamination might consist of emergency treatment to control hemorrhage or restore breathing, which could include the administration of antidotes (see FM 4-02.7, FM 4-02.33, FM 4-02.283, FM 8-284, FM 8-500, and ERG 2004 for detailed information on treatment procedures). All patients must be monitored and

provided care during the decontamination process to ensure that no further injury is caused by the decontamination process.

(2) The on-scene initial treatment for deployed forces or on a military installation is provided by the organic or supporting FHP personnel. On-scene initial treatment is usually provided by local, state, or federal medical responders at incidents off the installation. When an MOU is in place FHP personnel may provide the initial treatment for off installation incidents.

b. Patient Movement. Patient movement in a tactical situation is managed by the supporting FHP organizations. In a MASCAL situation involving civilian casualties, local civilian authorities normally manage patient movement operations. Patient movement on an installation is managed by EMS. See JP 4-02, FM 4-02.7, FM 8-10-6, FM 8-500, ERG 2004, and service/local command guidance for specific patient movement procedures.

6. Casualty Collection Points

Casualty collection points are established on the downwind side of the incident area and at the periphery of the warm zone. Medical personnel are located in these areas to begin triage and EMT to stabilize the patient for gross decontamination.

7. Medical Evacuation

One of the first considerations following a CBRN attack is to determine to what extent evacuation assets will be committed to contaminated areas. If personnel are to be sent into contaminated areas to evacuate casualties, some type of exposure guide must be established and followed. Every effort should be made to limit the number of assets and people that become contaminated, to include protecting medical personnel and evacuation crews from exposure to CBRN agents as much as possible.

a. Medical Evacuation. This is the process of moving patients from the point of injury to an MTF, or between two MTFs using vehicles, aircraft, or watercraft that are designed and staffed for this purpose. As a general rule, the unit will decontaminate casualties before they are presented to the MTF or entered into the aeromedical evacuation systems. Medical evacuation differs from casualty transportation in that en route care is provided during medical evacuation. See JP 4-02, FM 8-10.6, and FM 4-02.7 for detailed information.

b. Nonmedical Vehicles With En Route Care. When the number of patients exceeds the capabilities of supporting ambulances, nonmedical vehicles (e.g., flat bed trucks, school buses, public transit buses, helicopters, and private boats) may be employed for patient evacuation purposes. Medical personnel provide en route care to the patients. However, the level of care that can be provided may be limited due to the way patients are loaded onto the vehicle. See JP-4.02 and FM 8-10.6 for additional information.

c. Transportation Without En Route Care. When patient movement needs cannot be met with medical and nonmedical evacuation vehicles equipped with en route

care, patients may be transported on any vehicle of convenience. See FM 8-10.6 for additional information.

d. Preparation of the Patient for Evacuation. Preparation of the patient should include initial emergency treatment and decontamination/removal of gross contamination. In the battle area, those in MOPP should remain in their protective ensemble which can be grossly decontaminated (patient operational decontamination) before they are loaded on to "dirty" evacuation assets for movement to a facility that has adequate resources to perform a thorough decontamination. Previously decontaminated patients, who are no longer wearing MOPP, must be protected from contaminated patients through the use of a patient protective wrap (PPW). In a civilian setting gross decontamination assets may travel to the casualty collection point where patients will have clothing removed and skin decontaminated before being loaded onto evacuation vehicles. See FM 4-02.7 and *Multiservice Tactics, Techniques, and Procedures for CBRN Decontamination* for detailed information.

e. Preparation of the Medical Evacuation Vehicle. When contaminated patients are to be evacuated, the vehicle should be prepared for the mission. Preparation may include placement of plastic sheeting or blankets, under the litters to keep liquid and solid contamination off the inside of the vehicle. Also, the crew must be protected against the agent/material; they should be in the appropriate level of MOPP/EPA PPE.

NOTE: Potentially contaminated evacuation assets should be marked in a manner to indicate that they are dirty evacuation assets and the type of contamination they may contain (e.g., chemical, biological, radiological). These assets should only be used for incident response until decontaminated. See *Multiservice Tactics, Techniques, and Procedures for CBRN Decontamination* for additional information.

f. Aeromedical Evacuation. Externally contaminated patients and those infected with critical list agents will not be transported onboard AMC or AMC-procured aircraft without first being decontaminated. AMC/CC is the waiver authority to this policy. The transport of biologically contagious patients will need international clearances to fly over some countries.

8. Quarantine/Restriction of Movement

On an installation, restriction of movement procedures, including quarantine, may be necessary to prevent or reduce person-to-person transmission of communicable diseases following a BWA attack or a naturally occurring disease pandemic. The command surgeon or medical treatment facility commander/PHEO recommends these procedures. The installation commander directs their enforcement. The duration of such controls is determined by the period of time that personnel remain contagious. See DODD 6200.3, FM 4-02.33, and FM 8-284 for detailed information.

9. Patient and Medical Staff Protection

Essential to patient care is providing protection for patients and medical personnel from the effects of CBRN agents.

a. During the Evacuation. Patient protection during evacuation can be provided by use of the vehicle onboard collective protection (COLPRO) system, MOPP, the patient protective wrap, plastic sheeting, blankets, or other barrier material. Selecting routes that do not require movement through the downwind hazard area is also critical for crew and patient protection.

CAUTION

Do not place a contaminated patient into the Patient Protective Wrap (PPW) or other impermeable material. To do this will create a vapor seal which will increase absorption of the vapors through the contaminated patient's skin. The PPW is designed to be a protective overgarment for the thoroughly decontaminated patient who must be transported across a contaminated or potentially contaminated environment.

b. In the Hospital. Patient protection in fixed facilities without collective protection systems/equipment requires innovative procedures. Expedient patient protection may be provided by covering them with sheets, blankets, or plastic sheeting, and providing forced airflow over their face. The forced airflow can reduce the amount of chemical/biological agent that is inhaled.

c. Medical Staff PPE. The MOPP ensemble is the standard IPE provided to warfighters by theater combatant commanders in an operational environment. However, when non-military first response and recovery operations are involved, personnel must use federal OSHA levels of protection. When TIM are involved (especially TIC), personnel may require OSHA Level A, B or C protective ensembles or the use of National Institute for Occupational Safety and Health (NIOSH)-approved respirator with appropriate filter. See DODI 6055.1, *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection*, *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Vulnerability Assessment*, FM 3-11.24, FM 4-02.7, FM 8-500, and ERG 2004 for descriptions of MOPP and OSHA protective equipment and requirements.

10. Combat and Operational Stress Control

Combat and operational stress control (COSC), also referred to as "mental health services," is critical in managing the stress concerns/conditions of service members and civilians that are affected by CBRN attacks/events (see FM 4-02.51).

a. In garrison, the primary care/response to COSC will be provided by organic MTF mental health personnel or mental health personnel in direct support of the MTF. When deployable COSC unit personnel are available, they may augment and support the MTF staff in the management of combat and operational stress reaction (COSR).

b. When operating in a deployed environment and under the threat of or under actual CBRN conditions, service members will be at a high risk of suffering COSR conditions. The invisible, pervasive nature of these agents/weapons creates a high-degree of uncertainty and ambiguity, presenting fertile opportunities for false alarms, mass panic and other maladaptive stress reactions. Therefore, medical personnel, commanders, and leaders must take actions to prevent and reduce the numbers of COSR cases in this environment. For detailed information on COSC see FM 4-02.7, FM 8-51, and FM 4-02-51.

11. Hospital Requirements

Installation based hospitals and deployable hospitals alike require early planning for preparation and receipt of CBRN patients. The patients may self-evacuate to the facility or may be evacuated to the facility before being decontaminated. Therefore, all hospitals in the vicinity of a CBRN event must be prepared to receive contaminated patients.

a. Contamination Control. Contamination control is critical to a successful medical response to a CBRN event. One patient contaminated with CB material could render the MTF unusable and contaminate the medical staff, thus disabling the medical staff from providing essential care to the victims of the incident. Key considerations include the following:

(1) Contamination should be removed from patients and medical items as close to the incident site as possible.

(2) Any individuals arriving at the hospital contaminated with a CBRN agent that were not decontaminated at the incident site must be decontaminated before admission into the medical facility (see paragraph 13.a.).

(3) The patient decontamination point(s) at an MTF should be clearly marked and operated with an established protocol to include addressing the use of detection equipment to verify decontamination and methods to control/collect decontamination water as appropriate (should be coordinated with local water treatment facility and environmental personnel).

(4) Lifesaving measures take priority over radiological decontamination, but in the case of less severe injuries, every effort should be made to decontaminate radiologically contaminated patients prior to entering the hospital. Concerns about the spread of radioactivity, (i.e., radioactive contamination or possible contamination of medical personnel) should be attended to after the patient has been stabilized.

b. Facility Security/Entry and Exit Control. Planning must include lock down procedures for the facility. Entry into the medical facility during and after a CBRN incident must be controlled by security personnel. If security personnel, not assigned to the hospital, will be used to provide hospital security, this should be noted in pre-event planning. Entry/exit should be limited to one or two doorways near patient hospital decontamination areas, with all other entrances secured and monitored. If the

facility is collectively protected and COLPRO is activated, then these entry/exit areas must be doors that have air locks and positive pressure to limit the entry of outside airborne contamination. See FM 4-02-7 for detailed entry/exit procedures.

c. Hospital Triage/Emergency Treatment Area (Decontamination Zone). The MTF should have medical personnel stationed between the evacuation vehicle arrival area and the hospital decontamination area. This hospital triage and emergency treatment area allows arriving patients to be re-triaged and provide medical stabilization while they await decontamination outside the hospital. Medical personnel in this area will determine which arriving patients have priority for decontamination at the designated hospital decontamination area.

d. Emergency Room Care. Emergency room personnel must be trained in procedures for providing emergency care to patients arriving from a CBRN event site. Patients may be suffering from the effects of the CBRN agent, conventional injuries, COSR, or a combination of these injuries/effects. Provision of care for these patients requires emergency room personnel to be trained in conventional injury care and treatment of CBRN effects. Emergency room personnel must also ensure that any patient or individual from the incident site are decontaminated prior to allowing their entry into the facility.

e. Inpatient Care. Inpatient care during and after a CBRN event requires not only care for their injuries/illnesses, but also protecting the patient from exposure to the CBRN effects. Patients in the fixed facility may be exposed due to the lack of COLPRO. When COLPRO is not available, wrapping a clean or decontaminated patient in blankets, sheets, etc and providing filtered fresh air to the face, mouth, and nose or administering oxygen through a face mask can greatly reduce the effects of many CB agents. The best protection is provided by COLPRO systems/equipment or individual PPE.

f. Infection Control. Infection control within the MTF is critical, especially when patients with contagious/infectious biological agent effects are admitted to the facility. Isolation/quarantine of affected patients is critical. The medical staff providing care to these patients should be limited in numbers and must apply standard, airborne, and contact precautions. See FM 4-02.33 and FM 8-284 for additional information.

12. Collective Protection

The provision of COLPRO in a fixed facility is possible. However, plans and improvements to the structure must begin long before any incident occurs to ensure survivability/protection of the hospital staff and patients.

a. Employment of the Chemically Protected Deployable Medical System (CPDEPMEDS) in a field environment is described in Mult*iservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* and FM 4-02.7. However, these systems may be employed in support of a response to a CBRN event at an installation. The CPDEPMEDS is classified as a deployable system, but the time required to establish/disestablish this system, makes it basically an installation. See TM-10-5410-283-14P for detailed information on this system.

b. Collectively Protected Expeditionary Medical Support (CPEMEDS) and Deployable Medical System (DEPMEDS) are joint programs to integrate environmentally controlled COLPRO into already fielded USA and USAF field hospitals in order to sustain medical operations in a CBRN contaminated environment for 72 hours. The M28 Simplified CPE has been integrated into the Army DEPMEDS and the Air Force EMEDS field hospitals.

c. The chemical biological protective shelter (CBPS) system is a deployable medical shelter system used by the battlefield medical treatment facilities and the forward surgical team. When available, they may be employed at an installation as a temporary shelter when the fixed facility becomes contaminated. However, the numbers of patients and staff that can occupy these systems are limited. When employed at the installation, only those patients who cannot be otherwise protected from the CBRN contamination should be placed inside these systems. See TM 10-5410-228-10 for detailed information and FM 4-02.7 for additional information on employment of these systems.

d. The M20 Simplified CBRN Collective Protection Equipment may be employed in rooms of opportunity or tents to provide COLPRO. However, this system only provides ambient temperature filtered ventilation. Newer versions of the M20 to include M20A1 are currently being fielded. See *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* and TM 3-4240-288-12&P for additional information.

13. Decontamination

a. Patient Decontamination. Decontamination of patients is critical to reduce the CBRN effects on them and to protect rescuers and medical personnel from cross contamination, or in the case of chemical agents from off gassing of vapors. Patients who were wearing protective garments when they were exposed to an agent may not need the extensive skin decontamination required for those who wore no protective equipment. When MOPP/IPE is worn, it is important to remove the overgarment carefully to reduce the spread of contaminant. In any case, clothing should be removed and the patient thoroughly decontaminated before he is allowed into a toxic-free MTF. For specific decontamination procedures see FM 4-02.7, FM 8-500, and ERG 2004. Consideration must be given to the placement of decontamination points to reduce the spread of contamination adjacent to fixed MTFs. Newly fielded decontamination equipment will require planning and training to be used effectively to decontaminate casualties. Principles presented in FM 3-11.5 remain valid for fixed-side patient decontamination and for newly fielded decontamination systems.

b. Facility Decontamination. Decontamination may require temporary closure of the MTF. Biological contamination may require labor-intensive decontamination procedures. Contamination with liquid or dry chemical agents will require decontamination of contaminated surfaces and sampling/analyses to ensure there are no residual toxic vapors. Areas contaminated only by vapors from patient clothing need only be well ventilated by fans to remove contaminated air from the area but would still need to be sampled to verify vapors have dissipated. Radiological

contaminants, radioactive dust, should be carefully wiped up or removed with a high-efficiency particulate air (HEPA) filter vacuum or other procedures which limit dust movement. The area can then be carefully checked with a detection device until no contamination is detected. The confidence with which an area is determined to be adequately decontaminated and "cleared" for reuse will be somewhat limited by reliance on real-time detectors. Real-time detectors include M8/M9 paper for surface liquid and several vapor detectors. The levels of detection are not necessarily no-effects levels. Unfortunately, the alternative, using laboratory analyses, would likely result in significant time delays. Therefore, facilities should include in their plans, specific identification of equipment to be used to verify decontamination/clear areas along with the explanation of the levels of detection offered by the equipment and the degree of protection offered by these levels. Plans should identify additional steps to be taken to verify clearance (e.g., follow-up laboratory analyses). This documentation will be critical for documentation of overall exposures to facility personnel and patients.

c. Medical Equipment Decontamination. Most medical equipment is not hardened or protected and cannot be decontaminated using standard decontaminants; therefore, replacement items must be available. Weathering may be used as a method for decontamination of medical equipment contaminated with liquid chemical agent only if no replacement is available and other decontamination methods would damage the equipment. Washing can be used if it does not damage the components, and the decontaminant used is not harmful to the material. Hypochlorite will corrode metal components. Equipment should be thoroughly disassembled during decontamination and should not be used inside a medical facility until it has been thoroughly disassembled and cleaned and its cleanliness can be verified with a detection device. (As indicated previously, however, the use of real-time equipment to verify adequate decontamination has significant limitations.) Medical supplies that are not packaged in metal or other impermeable containers and become contaminated must not be used in patient care. The outside of protected containers of medical supplies can be decontaminated and the contents can be used in patient care. See FM 4-02.7 for additional information.

d. Ambulance Decontamination. Decontamination of ambulances requires special considerations due to the fact that onboard medical equipment will most likely require replacing. Also, ambulances will be in such great demand that decontamination may have to be delayed until all patients have been evacuated. Operator decontamination should be performed to reduce the level of contamination in the patient transport area. See FM 4-02.7 and FM 8-10-6 for additional information.

14. Medical Logistics

Medical logistics (MEDLOG) personnel must be prepared to provide logistical support in preparation for and in response to a CBRN incident/event. Medical treatment personnel and MTFs may have a limited stock of pharmaceuticals, blood and blood expanders, medical equipment, and other Class VIII supplies on hand. However, resupply must be readily available for continuous response to the incident. The Army has CM sets positioned and maintained at strategic locations and are readily available within 24 to 48 hours after a CBRN incident. CM sets provide additional supplies to a CBRN incident to allow MTFs sufficient time to establish a resupply chain through the

normal prime vendor system. Sources of supply and critical materiel to support a CBRN incident must be identified in advance in order to expedite the resupply chain. For additional information on MEDLOG see JP 4-02.1 and FM 4-02.1.

a. Pharmaceuticals and Blood. Antidotes, pretreatments, therapeutics, barrier creams, blood and blood expanders must be available before a CBRN event occurs. Advance planning for critical materiel is a key element of MEDLOG preparedness. See JP 4-02 and FM 4-02.1 for detailed information on MEDLOG operations. See FM 4-02.33, FM 4-02.283, FM 8-284, and FM 8-500 for detailed information on essential pharmaceuticals.

b. Medical Equipment. Most medical equipment is not protected or hardened against CBRN contamination. MTF personnel and supporting units must be prepared to address contaminated or damaged equipment caused by a CBRN event. Alternative or noncontaminated equipment must be provided for use in patient decontamination and treatment operations.

c. Nonmedical Equipment. The nonmedical equipment that is required to provide a FHP response and patient care may include such items as garden hoses, shower heads mounted on pipe stands, disposable gowns, soap, wash cloths, household bleach, and bath towels for patient decontamination at the receiving MTF. High-test hypochlorite (HTH) or household bleach can be used to clean the patient equipment. See FM 4-02.7 and FM 8-500 for patient decontamination procedures. PPE for medical staffs must be provided including MOPP and/or EPA Levels A, B, C, and D ensembles, depending on the operational environment. Protective material such as tarpaulins and rolls of plastic material for covering supplies that cannot be stored inside containers or buildings may also be needed. The improvised air-lock frame is constructed of wood, pipes, or other similar material. The cover and outside door is constructed of the tarpaulin or plastic material and placed over the frame.

15. Incident Installation Medical Support

Organic medical personnel on the installation or designated medical personnel from another installation provide medical support at the incident site on the installation. The installation fire department or emergency medical services will normally provide medical evacuation from the incident site to the MTF. When on installation emergency medical services are not available, memorandums of agreement may be established with the off installation emergency medical services for provision of these services. Deployable medical evacuation assets may also be employed in patient evacuation.

16. Reach-Back

When local FHP capabilities cannot meet incident support requirements, reach-back organizations/agencies should be employed to fill the gaps. Reach-back support may be obtained from various sources. See FM 3-11.21, FM 3-11.4, and FM 8-42 for detailed information. Examples include the following:

a. DOD Organizations. DOD organizations include, but are not limited to, USAMRIID, USAMRICD, CHPPM, NMRC, or the AFRRI. See FM 4-02.7 for detailed information.

b. Other Federal Agencies. Federal agencies may include the CDC, FEMA, OSHA, DHS and EPA.

c. Local/State Organizations. Local/state civilian organizations may include law enforcement, public health, medical clinics, hospitals, fire departments, and emergency medical services.

d. Host Nation Support (HNS). HNS may include law enforcement, public health, medical clinics, hospitals, fire departments, and emergency services. However, their medical treatment standards and pharmaceuticals may not meet US standards. Therefore, memorandums of understanding/agreements should be developed to ensure that their medical support meets US standards.

17. Medical Planning Considerations.

There are multiple planning considerations to support operational planning. These considerations include—

- Receipt of contaminated self-evacuees.
- Recognition of biological outbreaks.
- Alternate treatment or isolation sites.
- Hospital evacuation.
- Training of patient care providers and nonmedical augmentees.
- Replacement of sick medical care providers.
- Ensure plan nesting with installation plan.
- Provision of a common operational picture.
- Logistical disruption.
- Facility security.
- Decontamination operations.
- Medical information/patient tracking.
- Integration with supporting medical facilities NDMS/MOV.
- Concept of operations for the entire installation AO.

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Appendix E

COLLECTIVE PROTECTION AND IN-PLACE PROTECTION

NOTE: For additional information on how to use and install COLPRO and SIP, see *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* and the *Unified Facilities Criteria*.

1. Collective Protection

a. COLPRO is protection provided for personnel to carry out functions without being restricted by protective clothing. JP 1-02 describes COLPRO as facilities or systems equipped with air filtration devices and air locks to provide personnel with a toxic-free environment for performing critical work and obtaining rest and relief in order to sustain combat operations. COLPRO is provided through a facility or the integral portion of equipment design, whereby individuals or groups may be afforded protection.

b. The term COLPRO applies to: buildings, facilities, or ships modified to afford protection; pieces of equipment (in their entirety or in part); or vehicles designed to provide CBR protection. COLPRO usage is characterized by the requirement of an individual or group to execute specific actions, such as donning or doffing equipment, entering a facility, or closing openings in order to derive the benefits of COLPRO.

c. COLPRO provides a safe environment for individuals to carry out tactical functions such as weapons employment, medical care, C2, and communications without being restricted by wearing the full set of CBRN protective clothing. MTTP for *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection*, provides a detailed discussion on COLPRO.

d. Ideally, COLPRO provides a temperature-controlled, contamination-free environment to allow personnel relief from continuous wear of PPE. The basic concept for most facility COLPRO solutions is to provide overpressure, filtration, and controlled entry and exit. Maintaining a higher internal air pressure than external pressure and filtering incoming air prevents contaminated external air from infiltrating the shelter. The result is a TFA where personnel can operate without protective equipment. One or more self-purging airlocks provide controlled entry and exit.

e. In addition to mission critical sustainment, COLPRO supports two mission sustainment areas that quickly erode in a CBR environment: personnel rest and relief (breaks and sleeping), and work relief (C2, medical treatment, MOPP recovery time after maximum work effort). Each installation must assess COLPRO requirements based upon the likely threats and mission requirements. Specific COLPRO solutions may include a mixture of permanent, mobile or transportable, or expedient or temporary COLPRO systems.

f. The provision of COLPRO in an installation is possible. However, plans and improvements to the structure must begin long before any incident occurs to ensure survivability/protection of the occupants. Representative COLPRO capabilities are identified below.

(1) Employment of the CPDEPMEDS in a field environment is described in *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Vulnerability Assessment* and FM 4-02.7. However, these systems may be employed in support of a response to a CBRN event at an installation. Though the CPDEPMEDS is classified as a Level III and Level IV deployable system, the time required to establish/disestablish this system associates this as an installation asset (see FM 4-02.7 and FM 4-02.10 for detailed information on this system).

(2) The CBPS system is a deployable medical shelter system used by the Level I and Level II MTFs and the forward surgical team. When available, they may be employed at an installation as a temporary shelter when the installation becomes contaminated. However, the numbers of patients and staff that can occupy these systems are limited. When employed at the installation, only those patients that cannot be otherwise protected from the CBRN contamination should be placed inside these systems. See FM 4-02.7 for additional information on employment of these systems.

(3) The M20 simplified CBRN COLPRO equipment may be employed in rooms of opportunity or tents to provide COLPRO. However, this system only provides ambient-temperature filtered ventilation (see *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* and TM 3-4240-288-12&P for additional information).

2. In-Place Protection

a. Use in-place protection, according to the guidelines in Table E-1 when evacuation may cause greater risk than remaining in place or when successful evacuation cannot be conducted.

b. In-place protection may not be the option of choice if the toxic vapors are flammable, the hazard is persistent, or buildings cannot be closed tightly. Although vehicles are not as effective as buildings, vehicles can offer some protection for a short period when the windows are closed and the ventilating system is shut off.

c. Warn personnel that are protected in place to stay clear of the windows due to the danger of glass and projectiles in the event of a fire or explosion. Maintain some form of communications with in-place protected personnel and advise them of changing conditions. Communications are a psychological lifeline for personnel cut off from freedom of movement and information.

d. Paragraph 3 provides detailed options for developing a form of an in-place protection program.

Table E-1. General Protection-In-Place Options

Protection-In-Place Options		
For This Function:	**Use These Items:**	**With This Guidance:**
Sealing Air Infiltration Points	• Plastic Canvas • Plastic Sheeting • CBRN-PC • Foam-In-Place • Gasket forming materials (silicon, rubber gaskets, foam sealing materials)	• Place plastic around inside of windows and doors. • Close holes and windows with plywood; seal using items shown and duct tape. • Spray foam into doorways and windows, overlapping all sills and openings. Foam spray will not work well on overhead horizontal surfaces. • Spray foam into all air intakes and exhausts. • Cut and fit plastic as necessary; use duct tape to hold in place. **CAUTION** Turn off HVAC systems before sealing air intakes/exhausts.
Individual Covers	• Plastic Sheet • Plastic Canvas • CBRN-PC • Military/Civilian Wet Weather Gear/Rain Suits (Rubber) • Ponchos • MCHT • TEMPER	• Cut plastic sheet, plastic canvas, and CBRN-PC 1.5 times taller and wider than the individual using it. Use as cover to provide protection-in-place for personnel caught in the open. • Make rain suits/ponchos part of daily work uniform, use in conjunction with plastic sheet, plastic canvas, and CBRNPC. • Pre-position MCHT and TEMPER throughout installation, concentrate on areas with few approved shelters, but high personnel concentrations.
Materiel Covers	• Plastic Sheeting • Plastic Coated Canvas • CBRN-PC • Large Area Shade Systems • Large Area Maintenance Shelter	• Cut and fit as necessary, use duct tape to hold in place. • Place covered material under shade systems or shelters for additional protection.
Shelters	• CONEX • MILVAN • MCPS • MGPTS	• Place CONEX/MILVAN at regular intervals around installations. Attach plastic sheet/CBRN-PC to front of CONEX/MILVAN of sufficient size to cover the opening and to act as a liquid barrier. Attach weight (piece of wood/iron bar, etc) to bottom edge of plastic to hold in place when being used. • Erect MCPS/MGPTS at specified intervals (based on personnel concentrations). • Use these measures in conjunction with individual and materiel covers.
Vertical Separation	• Plastic Sheeting • Plastic Coated Canvas • CBRN-PC	• Move operations to upper floor/levels. • Block entryways and openings with multiple sheets of plastic. Place a plastic sheet at foot of stairs, another partway up the stairs, a third at the top of the stairs, etc.
CAUTION The duration of protection using these measures is not quantified and is provided for emergency situations only. This table does not preclude using other expedient measures afforded by available materials and common sense.		

3. Shelter In Place

a. Using Shelter in Place (SIP). SIP is a means to providing low-cost, short-term protection against the effects of CBRN agent or the accidental or deliberate release of TIM. The purpose of SIP is to make a shelter out of the place you are in and protecting yourself until help arrives.

(1) SIP uses the indoor atmosphere to separate you from airborne hazards outside. Personnel are still potentially in the danger area, but are protected by the barrier created by the shelter. Speed is essential for SIP to work, the quicker actions are taken, the less likely airborne contaminants will enter.

(2) Protection diminishes over time. SIP is only for a short duration, roughly 2 hours or less. During wartime, this method is used to limit the entry of airborne contamination when other protection is unavailable. Under emergency conditions, it may provide limited protection to unprotected personnel or casualties that cannot wear the protective mask. A building can provide substantial protection if the air is filtered, temporarily interrupted, or reduced. Interrupting air flow is the principle used in SIP, and shutting down a building's HVAC and closing outside openings reduces the potential hazard. The concept assumes that the techniques can be applied rapidly, require little or no specialized training, and use common skills and supplies. Specific methods will vary based on the building or area to be protected and the ability to provide advanced warning to the occupants. Establishing SIP procedures for an installation requires planning and preparatory actions. The information provided in the following paragraphs outlines basic steps that can be used to support SIP planning. Key elements in the planning process include:

- Identifying space for SIP.
- Preparing and maintaining SIP kits.
- Establishing and practicing SIP procedures.
- Coordinating and assisting the training and exercising of SIP procedures.
- Determining the appropriate criteria to determine when SIP is necessary. This should be balanced with potential hazards associated with this COA (such as preventing access to medical and other potentially needed resources; exposure buildup of carbon dioxide and/or heat that cause headaches/mild illness or weakness—people in poorer health are especially vulnerable to these risks.

NOTE: the buildup of carbon dioxide can result in some mild effects such as headaches and weakness or fatigue. These effects are transient for short-term exposures, but monitoring of carbon dioxide levels is advisable to ensure serious life-threatening levels are not reached. Use of generators or propane heaters should be avoided inside shelters, as these can increase toxic levels.

(3) Identifying a building for use to support SIP will consider the following facility requirements. For example, the ideal building should be:Concrete.

- Multistory.

- Equipped with air handlers located on the roof.
- Energy efficient.
- In a remote location.
- On a hill.
- Upwind side of the base.
- Away from the installation perimeter.
- Equipped with an emergency power supply.
- Equipped with filtered air.

Further, the rooms identified for SIP should be on an upper floor; possess no windows, provide a communications capability, and be accessible during duty hours and at a central location.

b. Estimating SIP Requirements. Estimating space requirements involves factors such as, the number of personnel that require shelter, available square footage, and air requirements.

(1) Computing Square Footage for SIP. Determining the approximate square footage for SIP includes estimating the total floor space required, the estimated available air and air requirements. A representative computation for determining square footage for a SIP requirement is identified below.

- **Step 1.** Determining Floor Space.
  - Current guidance allows for 10 f^2 per person for SIP.
  - Determine the area (f^2) of a SIP room by multiplying the length (l) by the width (w). (l) (w) = f^2
- **Step 2.** Determining Air Available. Determine cubic feet (f3) of a SIP room by multiplying (l) by (w) by Height (h). (l) (w) (h) = f3
- **Step 3.** Determining Air Requirements.
  - A person generally requires 16.2 f3 of air per hour while at rest. 32.3 f3 to protect for minimum of 2 hours.
  - Double the amount to 64.6 f3 for planning purposes and safety concerns due to heat and humidity build up, activity level of people, and the cautions of using the minimum air requirements (64.6 f3).

NOTE: The buildup of carbon dioxide will cause some headaches. This is acceptable for a short duration.

NOTE: People with poor health may become casualties to the heat, carbon dioxide buildup, or from the tight quarters.

(2) Sample SIP Room Calculation.

- **Step 1.** Determine Floor Space.
  - Measurement Example: 20 x 20 x 7.5

- Area = 400 f2
- (Using floor space per person requirement of 10 f2)
- Divide 400 f^2 by 10 f^2 = 40 people have room for SIP

- **Step 2.** Determine Air Available. Cubic feet of air = 3,000 f3
- **Step 3.** Determine Air Requirements. Divide 3,000 f3 by: 64.6 f3 = 46 people have enough air for two hours. Use the lowest number of people from steps 1 and 2. This is your "maximum occupancy (i.e., 40 people have room for SIP)".
  - Walk through potential SIP rooms. Look at actual floor space available by taking into account furnishing such as cabinets, cubicles and desks and the mission.
  - Determine how many people can be realistically sheltered. This is your "planned occupancy".
    - SIP must be accomplished within minutes to be of use.
    - The larger the SIP room, the longer it will take to seal.
    - Saving lives has a higher priority than comfort.
    - Unrealistic cramping of personal space becomes an issue before problems with breathable air arise.

c. Establishing an SIP program. Setting up an installation SIP program will be an effort that should include installation and tenant unit personnel. Table E-2 provides a list of sample steps that should be considered for establishment of a SIP program.

Table E-2. Establishing an SIP Program

NOTE: The Facility Manager and the installation or tenant emergency management point of contact complete this as a joint effort.
Determine the maximum number of people for SIP planning. • Number of personnel assigned. • Additional personnel routinely in the area.

Identify potential SIP rooms.
<u>Look for:</u>
• Accessibility during duty hours.
• Centrally located.
• Handicapped accessible.
• Communication.
  o Phone (minimum).
  o Computer with E-mail access.
  o Fax.
  o Cable TV.
• Water and food available.
<u>Avoid:</u>
• Rooms facing major roads.
• Rooms facing likely targets.
• Rooms with many windows.

Calculate occupancy of SIP rooms. • Compare the planned occupancy to the maximum number requiring SIP protection. • Add rooms as needed.
Develop SIP plans for each SIP room. • Refer to “Sample SIP Procedures.”
Brief the SIP proposal to the commander and obtain approval of— • Location of SIP rooms. • Procedures. • Resourcing for SIP supplies.
Gather items for the SIP kit (one for each SIP room) (sample listing). • SIP plan. • Plastic Sheeting (6 mil minimum). • Duct Tape (10 mil minimum). • Radio. • Flashlights. • Batteries. • Scissors. • Bath towels, if needed (one per door). • Water, if needed (1 gallon per towel). • First aid kit.
Put together a kit for each SIP room. • Precut the plastic sheeting to cover windows, doors, vents, etc. • Clearly identify and place the SIP kit inside each SIP room.

Post SIP information in common areas of the facility. Information should include—
• Identify.
  o Facility manager.
  o POC.
• Location of the closest SIP room.
• Actions to take upon notification.

Table E-2. Establishing a SIP Program (continued)

Train personnel by providing an overview of SIP. **NOTE: This is a coordinated effort between the facility manager and the emergency management POC.** • What is SIP. • Why SIP. • Location of SIP rooms. • Actions to take upon notification. o Make sure everybody knows of the emergency . o Seal your office area and the building as you head toward your SIP room. Close windows, vents, and doors. Turn off heating and air conditioning systems. o Proceed to the nearest SIP room (assist those who need help). o Follow detailed instructions. • Actions to take once in the SIP room. • Warning and notification.
Exercising. • Practice on a regular basis. o At different times of the year. o Conduct some drills when people have opened windows and doors for ventilation. o If the facility operates at night or on weekends, conduct drills at those times also. • Participate in installation-wide exercises. • Get feedback from the participants and incorporate the lessons learned into your plan.

d. SIP Notification and Response Actions. See Table E-3 for sample guidance on establishing SIP procedures for a facility that includes background, notification, and response actions.

Table E-3. SIP Notification and Response Procedures

Background
SIP is used for an airborne hazard when it is safer to stay indoors rather than risk your life by going outside.
SIP is for short-duration protection, normally less than 2 hours.
Facility managers have identified SIP rooms, stocked them with SIP kits and instructions.
The installation commander will decide if SIP will be used during an emergency.
Notification
The facility concerned will notify the installation operations center of the emergency.
The installation operations center will notify the installation commander about the incident and the requisite notifications will occur via communications measures such as Mass E-mail or Phone calls to directorates.
Those who are notified should ensure that everyone is aware of the emergency by any means available.

Table E-3. SIP Notification and Response Procedures (continued)

Response
Facility Manager - Turn off HVAC systems and exhaust fans.
All Personnel Will Respond Immediately
Ensure that everyone remains indoors and inside the identified SIP area.
Seal the SIP room using available material. a. Remove contents from shelter kit. b. Post SIP signs (see Figure E-1) and secure the outer doors. c. Turn off all thermostats and air controls. **NOTE: Air recirculation will continue after HVAC systems are turned off if the thermostats are left on.** d. Check vents to see if air is still being circulated. If air is still coming out, seal these vents immediately! e. Seal vents and doors using plastic sheets; seal edges with long strips of duct tape. **NOTE: Precut plastic sheets are identified for doors and vents.** If necessary to help seal the room, wet a towel with water and place it at the bottom of doors.
On your way to the SIP room: a. Close windows, vents and outside doors. b. Lock up or secure classified material and funds if possible. c. Stay away from outer walls and windows when possible. d. Assist people in need of help. e. Perform self-aid and buddy care as needed. f. Create a list of personnel inside the SIP room and supply it upon request.
Follow the detailed instructions located in each SIP room.
Brief the facility manager on the status of SIP room using available communications means (e.g., phone, radio).
Sample SIP Status Report • Location Northwest corner of the lower level. • Responsible Facility Manager Installation Logistics Office • Planned Occupancy 100 • # of personnel being sheltered _____ • Time when SIP Room was sealed _____ • Contact information Phone _____ Fax _____ E-Mail _____ • # of non-life-threatening injuries _____ o Description of injuries _____
Do not allow personnel to exit the SIP area until directed to do so.
Maintain communications with the installation operations center or other designated POC for further directions.
When the “all clear” is announced, remove the plastic sheets and follow further instructions.

Figure E-1. SIP Sign for Posting Outside Rooms or Buildings

Appendix F

SPLIT MISSION-ORIENTED PROTECTIVE POSTURE OPERATIONS

1. Background

MOPP is not a fixed or rigid system. Commanders can place all or part of their installations in different MOPP levels (i.e., split-MOPP) or authorize variations within a given MOPP level. Based on postattack CBRN operational and health risk assessments, the commander could direct the use of different MOPP levels (e.g., split MOPP) in the different sectors or zones of the installation.

2. Base Sectoring Operations

a. When directed, or as a vulnerability reduction measure, the installation operations section must identify zones or sectors appropriate for the site geography and mission (Figure F-1). Installation planners consider factors such as work center disposition, physical features of the installation/site, and accessibility for movement between sectors or zones. If possible, planners use the same sector or zone identifications used by the security forces to identify defense sectors. This simplifies preparation, training, and use by the base population and operations section staff. It also reduces map clutter and the potential for confusion if multiple terms and actions are used for the same areas. The objective is to develop easily discernible sector or zone boundaries to simplify understanding by planners, C2 personnel, and the base populace. Once planners develop the sectors, training must be conducted to ensure that all personnel fully understand and are able to execute their responsibilities.

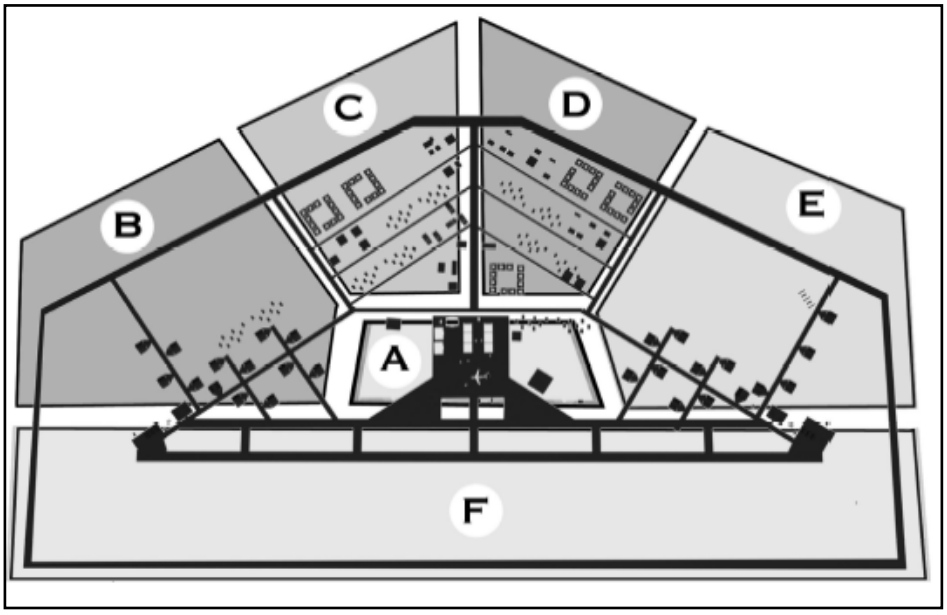

Figure F-1. Sector or Zone Identification (Notional Example)

b. Base sectoring is used to divide the installation into multiple sectors or control zones and assigns threat-based protective actions and MOPP to each individual sector/zone (Figure F-2). Assigning different MOPP levels to different sectors/zones is also known as split-MOPP. It provides the commanders with the flexibility to respond to threats in specific areas and continue operations within areas unaffected by the incident or at lower risk from the threat. Effective operations require an assured, base-wide communications system, a well-trained base population and C2 element, and senior leadership that understands the limitations, as well as the opportunities provided by this technique.

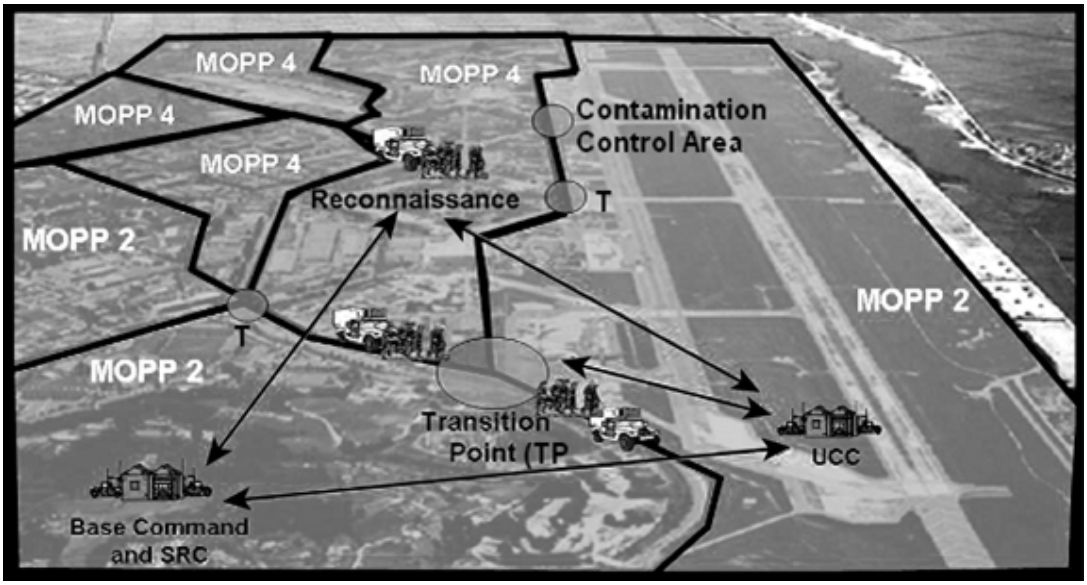

Figure F-2. Sample Base Sectoring with Split MOPP Levels

c. Once a split-MOPP capability is established, the commander can rapidly implement defensive actions in areas where threats are present and reduce mission-degrading protective actions in other sectors/zones. The need for increased mission accomplishment capability must outweigh the potentially high risk of split-MOPP implementation.

d. Split-MOPP implementation is sequential. It requires a chain of events that provides the commander with the opportunity to implement the tactics described. It also requires that the CBRN control center understand mission priorities and provide COA recommendations to the commander. The CBRN control center must continually monitor weather conditions and use input from CBRN reconnaissance teams to assess report inputs such as reports of actual contamination. Installation planners use these assessments to recommend sector or zone MOPP changes.

e. Each installation must assess its own requirements in terms of deciding how many sectors or control zones they should establish. The number and size of the zones can be based on the following factors.

- Providing grouping of similar functions or work center disposition within a sector.
- Identifying zone or sector boundaries should be easily discernable.

- Grouping similar surface areas (concrete and asphalt for example versus concrete and sand) into major portions of a sector or zone.
- Considering designating the sector boundaries along topographical lines such as higher elevation features because the higher elevations will typically have lesser vapor concentrations in an extended post-attack environment.
- Providing clear access routes in to and out of sectors/zones. Whenever possible, these access points should have a relatively large work area in the immediate vicinity.
- Providing compatibility with established or developing ground defense sector/zone designations.

3. Split Mission-Oriented Protective Posture Procedures

a. Split-MOPP is the concept of maintaining heightened protective posture (MOPP4) only in those areas (or zones) that are contaminated, allowing personnel in uncontaminated areas to continue to operate in a reduced posture (MOPP2). The reasons behind this idea are to reduce the impact on personnel and to enhance mission accomplishment.

b. There are challenges in using split-MOPP.

(1) One of these challenges is the fact that many individuals may routinely move from one area of an installation to another in performing their duties. Split-MOPP should be done on a zone-by-zone basis. An installation can use transzone operations (via transition points) to move personnel from one zone or sector to another. Transzone procedures will enable the reduction of a person's MOPP level (e.g., transitioning from MOPP 4 to MOPP2).

(2) Another challenge confronting use of split-MOPP involves detection of chemical agents and toxic industrial chemicals (TIC). Some chemical agents and TIC may not be detectable with standard detectors; or there may be residual low-level contamination present that is below the detection threshold for available detectors. Representative risk mitigation actions could include leaving contaminated equipment in the same zone and/or allowing weather to decrease the level of contamination.

4. Transzone Operations

a. Transzone operations describe the process whereby some personnel must transit across zone boundaries to sustain mission-critical functions. Those who may be required to transit across zones during split-MOPP include units such as security forces, firefighters, medical response teams, maintenance teams, communications teams, explosive ordnance disposal (EOD) teams, and CBRN reconnaissance personnel.

b. The largest volume of transzone travel typically occurs during a scheduled shift change. If a shift change occurs during a period of split-MOPP, much of the site populace may need to transit zone boundaries to return to their rest and relief area. Thus, the challenge for transzone operations is maintaining sufficient awareness of contamination status so personnel can adopt the appropriate MOPP for whatever CBRN zone personnel are in and take appropriate actions.

c. Materials to facilitate transzone operations at transition points should be readily available. This includes stocks of M8 paper, M291/M295 kits, mops and buckets

of 5 percent chlorine solutions or other decontaminants as designated by the service (e.g., use of towelettes), hand and boot troughs with 5 percent chlorine solutions, hand troughs with clear water, plastic sheeting, contaminated waste disposal receptacles, surveyor's tape, chalk, chemical signs from the CBRN marking kit, and sealed water containers (preferably full canteens with M1cap attached). If sufficient chemical agent monitors (CAMs) are available and are able to be matched with trained attendants, these chemical detectors should also be available at the transition area.

d. The number of transition areas into a particular sector should be a balance between mission requirements and control. Also, the availability of transition area attendants provides a means to help check that proper procedures are being followed. An attendant should help to reduce any cross-contamination during the transiting through the transit ion zone.

(1) Commanders should assign at least one attendant for each transition area and establish a rotation plan for the transition point (based on workload and weather conditions).

(2) If sufficient individual chemical agent monitors (ICAMs) and personnel are available, commanders should also consider assigning a second attendant to transition areas to also help minimize the risk of contamination. While effectively preplaced M8 paper can support detection of liquid agent, chemical vapor detectors at transitions points can reduce contamination risk further by detecting contamination that was not shown by M8 Paper.

e. Personnel should take the following actions at transition areas before exiting a contaminated area. See Figure F-3, page F-6, for a transition point diagram to support movement from a higher to a lower level of MOPP.

(1) At a transition point, a determination occurs whether a person should use transition point procedures or be directed to a Contamination Control Area (CCA). See Table F-1, page F-7, for representative guidance on when an individual should be directed toward a CCA for processing versus going through a transition point. The preparation of Table F-1 has been derived through use inputs from joint service-sponsored experiments and input from major commands such as Agility to Survive and Operate (ATSO) guides.

(2) Also, the transition point diagram is adaptable to whether one or two attendants are present. At the transition point, the following representative actions are taken:

- Thoroughly check the vehicle and cargo for contamination. If the items are contaminated, verify they must be taken out of the area for critical mission operations. Leave contaminated assets within the contaminated zone. Some chemical agents and TIC may not be detectable with standard detectors; or there may be residual low-level contamination present that is below the detection threshold for available detectors.
- Accomplish operational decontamination of the asset as required.

- Identify the asset as contaminated using installation instructions (e.g., mark contaminated items using CBRN marking kit signs, surveyor's tape).
- Accomplish a thorough self-decontamination regardless of whether chemical contamination is visible. Use M291/M295 kits for the IPE. Use two hand troughs (one with 5 percent chlorine followed by another clear water rinse) for glove decontamination and a boot trough for protective boot decontamination.
- If an attendant and ICAM are available, have them verify the effectiveness of decontamination. There are limitations on the use of a chemical detector such as an ICAM (i.e., ICAM as a nerve and blister agent detector and detection thresholds); however, decontamination at a transition point should generally be sufficient to decrease contamination below negligible risk. However, if a reading of "zero" bars can't be obtained, report to one of the installation's contamination control area/toxic free area (CCA/TFA) points for suit exchange prior to reducing MOPP below MOPP 4.
- Replace or refill individual canteen.

Table F-1. Processing Through a CCA

Situation	Description of Residual Hazard	Process Through CCA?
Direct contact with liquid on suit (positive M9)	High contact and vapor; suit jeopardization	Yes
Direct contact with liquid on suit (negative M9)	Unknown contact, limited vapor, suit jeopardization	Yes
Direct contact with liquid contaminated asset (positive M8 paper on item)	Unknown contact, limited vapor, unknown, suit jeopardization	Yes
Known exposure to vapors in contaminated area >4 hours	Limited vapor	Yes
Known exposure to vapors in contaminated area <4 hours	Minimal vapor	No
Direct contact with asset exposed to vapors (negative M8 paper on item)	Minimal vapor	No
Direct contact with liquid (boots only), transited through grass within 5 hours from declaration of Alarm Black	Limited contact (neutralized if boot troughs were used)	No
Direct contact with liquid (boots only); transited through, on, or over concrete asphalt within 2 hours from declaration of Alarm Black	Limited contact (neutralized if boot troughs were used)	No
No exposure	None	No

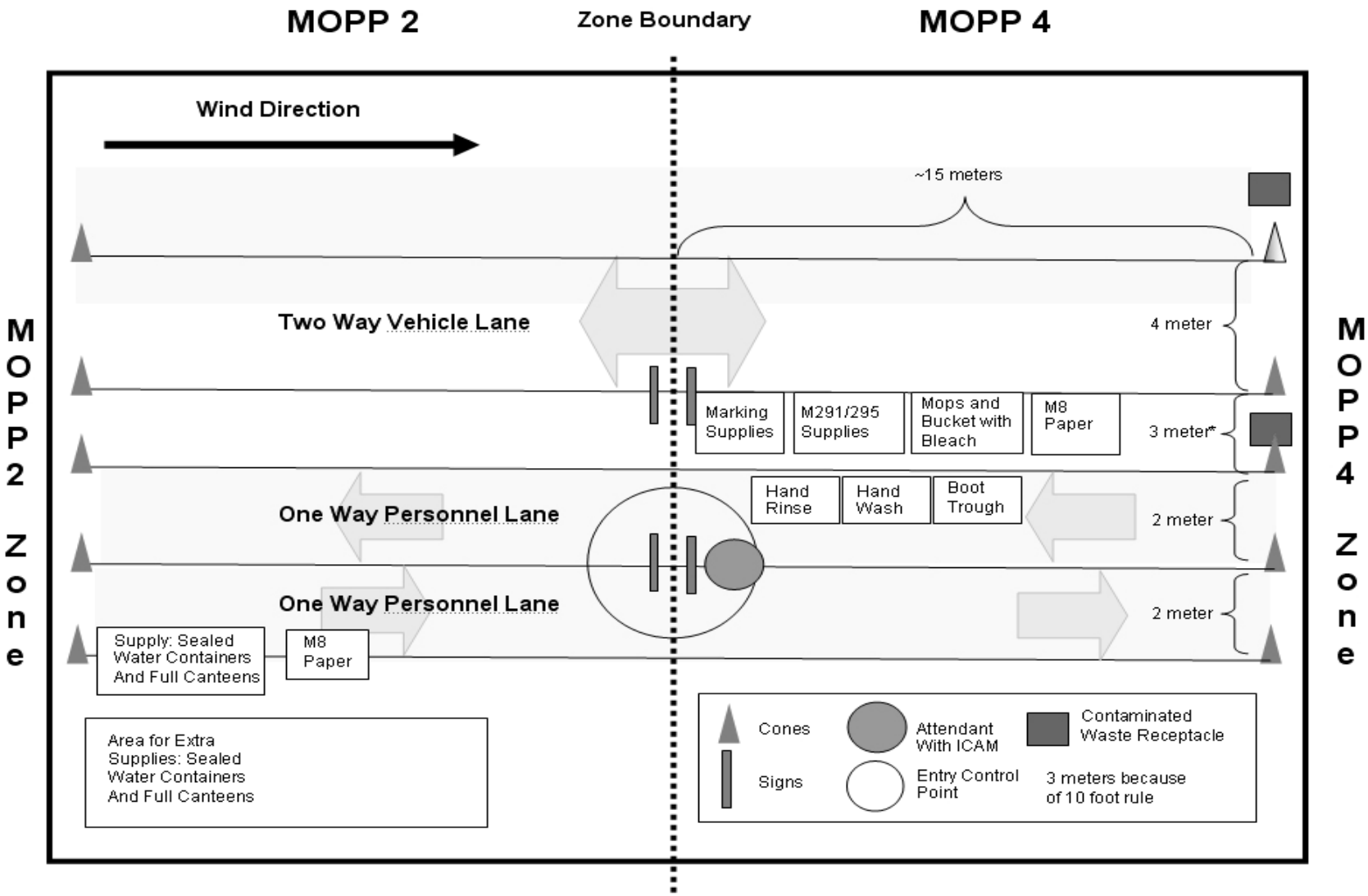

Figure F-3. Transition Point Diagram

Appendix G

CIVILIAN AND CONTRACTOR CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR DEFENSE CONSIDERATIONS

1. Background

a. DOD guidance (i.e., DODI 2000.16) directs commanders at all levels to take appropriate measures to protect DOD personnel, families, facilities, and materiel, and reduce their vulnerability to terrorist use of WMD. To support this requirement, threat assessments for potential terrorist use of CBRN weapons or material are conducted at the strategic, operational, and tactical level to support multiple users, including installation level commanders, CONUS, and OCONUS. Reports through the chain-of-command are disseminated immediately when significant information is obtained identifying organizations with CBRN capabilities.

b. Additional DOD guidance directs commanders (at all levels) to be prepared to provide incident response capabilities to support emergency lifesaving and rescue functions, to provide protection to DOD personnel and property, and, when appropriate, to conduct/support criminal investigations. All installation CBRN defense contingency plans need to account for civilians, contractors and in-transit units. Installation commander emergency response preparations should include measures to obtain current residential location information for all assigned DOD personnel and their dependents, when stationed OCONUS, including territories and possessions in moderate, significant, and high terrorism threat level areas. Additionally, any installation emergency response plans should address measures for enhanced security and/or possible evacuation of DOD personnel and their dependents. Also, installation commanders in moderate, significant, and high terrorism threat level areas provide assessments on options for special security arrangements to protect DOD personnel and their dependents living on the civilian economy. Training is a measure that commanders can use to increase the preparedness of civilian personnel within their area of operation. For example, DOD guidance also provides guidance that indicates the following:

(1) Combatant commanders, and/or services and/or DOD agencies shall ensure that every family member accompanying DOD personnel overseas are made aware of the need (e.g., Level I AT awareness training as part of their predeparture requirements) to maintain vigilance for possible terrorist actions and employ appropriate AT TTP.

(2) Commander should encourage family members to receive Level I AT awareness training prior to any OCONUS travel (i.e., leave).

2. Unique Considerations Depending Upon Operational Environment

Varied and unpredictable challenges can exist when considering CBRN protection of civilian and/or contractor personnel within either the international security environment or within any domestic setting. CBRN FP requirements for civilian and contract personnel must be included in any installation's overall CBRN defense framework. Key policy documents such as DODI 3020.41 , *Contractor Personnel Authorized to Accompany the U.S. Armed Forces*, should be reviewed as these CBRN defense plans are formulated.

a. Foreign Installations—Permissive Environment. Each component of CBRN emergency response plans at both overseas theater operational areas and associated intermediate staging bases need to have civilian and contractor personnel requirements embedded within.

(1) Planning Measures. Emergency response plans must take into account both the locations and the CBRN self defense capabilities of contingency contract personnel performing essential services. Additionally, as part of any cyclic review process, established CBRN emergency response plans should receive a review by the applicable government point of contact responsible for contractor operation to ensure that recent changes in contractor support have been considered.

(2) Preparatory Measures. Representative preparatory measures should include providing orientations and briefings to civilian and contractor personnel, providing appropriate IPE as directed, and conducting training and exercises.

(a) Providing orientations or briefings for contingency contractor organizations (personnel) should address key survival measures that may include identifying:

- Warning and alarm signals.
- Shelter locations.
- Decontamination locations.
- Mission oriented protective posture requirements.
- Required CBRN actions (preattack, during attack, post attack).
- Reporting requirements.
- Translation requirements.

(b) DODI 3020.41 states that in many contingency operations, the Government may decide it is in its interests to provide selected life, mission, and administrative support to some contingency contractor personnel. When necessary, and as determined by the Component Commander, according to the geographic Combatant Commander guidance, contingency contractor personnel may be issued military individual protective equipment including chemical defensive gear and other personal protective equipment according to applicable Military Department regulations, and the terms of the contract. See the *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* for those individual protective measures that should be undertaken during an attack. This equipment shall typically

be issued before deployment to the AOR at the deployment center and must be returned to the Government, otherwise accounted for, or purchased, after use. DODI 3020.41 further states that the Military Departments shall plan and source individual protective equipment as required by the Component Commander and the terms of the contract. Protective equipment of any type will not be procured for Category 2-4 personnel unless required in writing by the theater Combatant Commander or higher authority. These personnel are categorized as follows:

- **Category 2.** Other U.S. personnel, including—
  - U.S. military family members living on and off a military installation.
  - Non-emergency-essential US military personnel, military civilian employees.
  - DOD contractor (and subcontractor) employees other than those performing emergency-essential contractor services.
  - Employees of other U.S. Government agencies.
  - Other U.S. Government contractor (and subcontractor) employees.

- **Category 3.** Other personnel supporting U.S. military operations, including—
  - Personnel (non-U.S. citizens) who are employees of a military Service or a DOD contractor (or subcontractor), and who are not included in Categories 1 or 2.
  - Foreign military personnel employed by the host-nation government or by contractors of the host-nation government.

- **Category 4.** Allied/coalition nation personnel, including host-nation personnel and third country nationals that the U.S. may assist pursuant to an international agreement or as directed by the Secretary of Defense, such as allied/coalition military forces, government officials, and emergency response personnel.

(c) Conducting exercises can support assessments of the CBRN readiness of contingency contract personnel. The CBRN assessment could include inspections of training readiness on the ability of contractor personnel to perform CBRN or first aid tasks. See Tables G-1 and G-2, page G-4. for sample CBRN and first aid tasks that should be considered for assessment. Additionally, if an installation is tasked to operate a joint reception center, the installation may be required to train contingency contract personnel on CBRN and first aid tasks such as those sample tasks identified below in Tables G-1 and G-2.

Table G-1. Sample CBRN Tasks

• Decontaminate your skin and personal equipment using an M258A1 decontamination kit
• Protect yourself from CB injury/contamination while eliminating body waste when wearing MOPP4
• Identify chemical agents using M8 detector paper
• Protect yourself from CBRN injury/contamination with MOPP gear
• React to a nuclear hazard
• React to CB hazard/attack
• Detect chemical agents using M9 detector paper
• Protect yourself from CBRN injury/contamination when changing MOPP gear
• Replace canister on your M40 series protective mask
• Protect yourself from CB injury/ contamination using your M40-series protective mask with hood
• Maintain your M40-series protective mask with hood
• Decontaminate your skin using the M291 SDK
• Decontaminate your individual equipment using the M295 IEDK
• Protect yourself and others from CB injury/contamination by using (entering or exiting) a collective protection shelter

Table G-2. Sample First Aid Tasks

• Evaluate a casualty
• Clear an object from the throat of a conscious casualty
• Prevent shock
• Give first aid for burns
• Give first aid for heat injuries
• Give first aid for frostbite
• Put on a field or pressure dressing
• Put on a tourniquet
• Apply a dressing to an open abdominal wound
• Apply a dressing to an open chest wound
• Administer nerve agent antidote to self (self-aid)
• Administer first aid to a nerve agent casualty (buddy-aid)
• Apply a dressing to an open head wound
• Split a suspected fracture
• Perform mouth-to-mouth resuscitation

(3) Response Measures. Response measures for civilian and contract personnel are basically be the same as those actions taken by uniformed DOD personnel.

(4) Recovery Measures. Recovery measures for civilan and contractor personnel will likely include the operation of evacuation centers (see Figure G-1). *Multiservice Tactics, Techniques, and Procedures for Chemical, biological, radiological, and nuclear Protection* provides guidance for evacuation operations within the context of noncombatant evacuation operations (NEO). CBRN-related aspects that should be considered during each step of an evacuation operation include:

(a) Processing. Evacuee processing should be located in a building or other appropriate place that provides SIP or COLPRO capabilities. The area should be staffed with security, interpreters, local immigration, embassy, support liaison, CBRN and medical personnel. Factors to consider include:

- Processing should organize evacuees and provide age-appropriate applicable CBRN awareness level briefings.
- Procedures for minimum evacuee processing should integrate the potential need for decontamination support prior to implementation.

(b) Reception. Reception station personnel collect all available information, including information on the CBRN situation, from the marshalling teams who escort evacuees. Information from marshalling team log books is especially valuable because it may provide important CBRN SA data. Briefings for incoming evacuees may include information on CBRN awareness or other CBRN-related avoidance, protection and decontamination measures.

(c) Registration. Accuracy, speed and safety are key requirements during this phase of processing. Safety considerations integrate CBRN defense measures as part of the emergency response effort.

(d) Debriefing. Each evacuee should be debriefed to obtain information (e.g., CBRN data) that may affect the evacuation force, its mission, the evacuees, or other USG activities in the country. AOIs might include the following:

(e) Medical Treatment. The medical station provides emergency medical treatment (e.g., CBRN-related treatment) and immunizations, as required by the safe haven country. Injured, ill, or contaminated evacuees proceed through medical stations for first-aid and to identify medical conditions that may have an impact on the evacuation process.

(f) Transportation. Transportation personnel prepare each group of evacuees for embarkation aboard aircraft, ships, or surface vehicles to minimize exposure and the spread of contamination. The comfort station is a temporary waiting area for evacuees until they board evacuation aircraft. Comfort stations should also integrate CBRN avoidance, protection, and decontamination considerations.

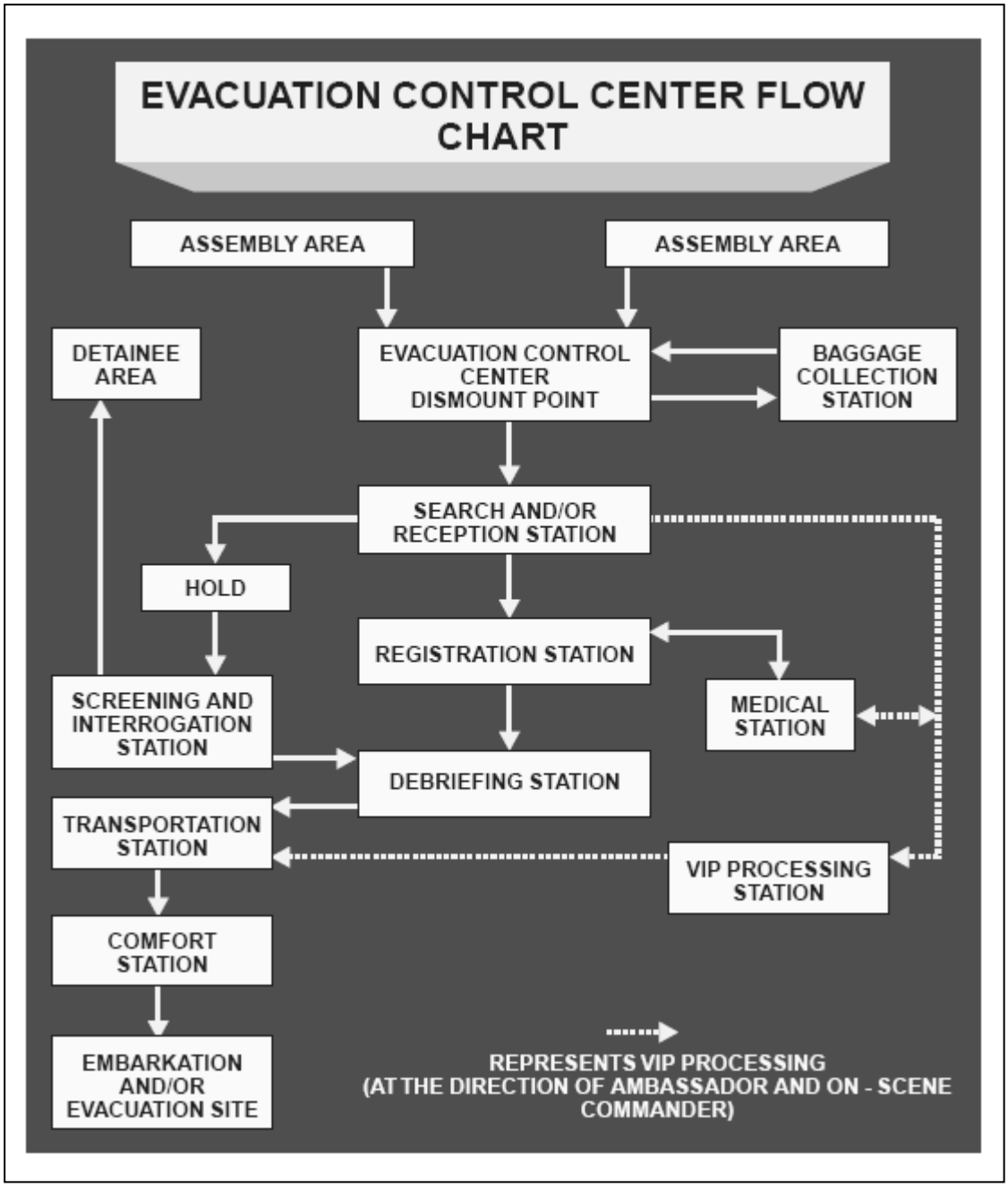

Figure G-1. Evacuation Processing Flow of Personnel

b. Domestic Installations.

(1) Commanders of forces and facilities in the United States must assess threats and vulnerabilities that may compromise peacetime operations. A number of state and nonstate adversaries may choose to employ CBRN devices and weapons against the US civilian population and infrastructures as well as military forces and facilities to impede execution of mission-essential tasks.

(2) Applicable awareness-level and AT briefings and training should be considered for civilian personnel and contractors as well as military personnel. Any advanced training or equipping of civilian personnel for CBRN protection would generally be as an exception to policy, unless there is an otherwise specified requirement. Peacetime planning, training, equipping, and supporting actions must include plans to understand threats, minimize vulnerability, and mitigate the effects of CBRN attacks in order to maintain required force preparedness.

(3) Commanders must coordinate with civilian authorities and agencies to prevent and, if necessary, mitigate and manage the consequences of deliberate or accidental CBRN employment or similar toxic material events in the United States. Detailed interagency processes guide the Armed Forces of the United States in providing military support to civil agencies to cope with such events.

(4) CONUS military installation commanders may be tasked to operate Continental United States Replacement Center. These are processing centers at selected military installations through which individual personnel will be processed to ensure that personnel readiness processing actions have been completed prior to reporting to the aerial port of embarkation for deployment to a theater of operations. Based on guidance from an applicable combatant commander, the replacement center may be tasked with providing CBRN training and equipment to applicable contract personnel.

3. Unique Terminology Associated With Contractor Operations

Five key definitions from DODI 3020.41 are provided below to help establish a framework for information discussed within this appendix:

- **Contingency Operation.** A military operation that is designated by the SecDef as a contingency operation or becomes a contingency operation as a matter of law (10 USC 101[a][13]). It is a military operation that is designated by the SecDef as an operation in which members of the Armed Forces are or may become involved in military actions, operations, or hostilities against an enemy of the United States or against an opposing force.
- **Contingency Contractor Personnel.** Defense contractors and employees of defense contractors and associated subcontractors, including US citizens, US legal aliens, third country nationals (TCNs), and citizens of HNs who are authorized to accompany US military forces in contingency operations or other military operations, or exercises designated by the geographic combatant commander. This includes employees of external support, systems

support, and theater support contractors. Such personnel are provided with an appropriate identification card under the Geneva Conventions.

- **Contractors Deploying with the Force (CDF).** A subcategory of "contingency contractor personnel" defined above. CDF are employees of system support and external support contractors, and associated subcontractors, at all tiers, who are specifically authorized in their contract to deploy through a deployment center or process and provide support to US military forces in contingency operations or in other military operations, or exercises designated by a geographic combatant commander. CDF includes forward-deployed system support and external support contractors designated to remain in place in theater when a contingency is declared. Such personnel are provided with an appropriate identification card under the Geneva Conventions. CDF usually work for the US military forces under a deployable contract agreement in peacetime and in many cases have a long-term relationship with a specific unit. They usually live with and provide services directly to US military forces and receive government-furnished support similar to DOD civilians. CDF do not include TCN or local national personnel hired in theater using local procurement (e.g., day laborers).
- **Essential Contractor Services.** A service provided by a firm or an individual under contract to the DOD to support vital systems in support of military missions considered of utmost importance to the US mobilization and wartime mission. The services, which shall be designated in the contract, are essential because the DOD components may not have military or DOD civilians to perform these services immediately or the effectiveness of defense systems or operations may be seriously impaired, and interruption is unacceptable when those services are not immediately available. Most support under the external support and systems support contracts falls into this category as well as some support under theater support contracts.
- **Joint Reception Center (JRC).** The center established in the operational area (as directed by the joint force commander), with responsibility for the reception, accountability, training, and processing, of military and civilian individual augmentees upon their arrival in the operational area. It is also the center where augmentees will normally be outprocessed through upon departure from the AO.

Appendix H

RESPONSIBILITIES FOR INSTALLATION CBRN DEFENSE

1. Installation Commander

a. The responsibilities of installation commanders in all operational environments include—

- Developing a CBRN emergency response plan that integrates use of installation, tenant, and transient resources into one coordinated document; and ensuring that the CBRN defense plan is synchronized with the overall installation emergency response plan. See Appendix A for a sample template that can be used to support a CBRN defense plan.

- Exercising the CBRN emergency response plan on a periodic basis across all functional activities on the installation (to include tenant and transient units) using methods that range from table-top to full-scale exercises.

- Directing installation activities to provide resources (e.g., personnel, equipment) that support the installation CBRN defense plan.

- Directing the periodic update of the installation CBRN defense plan based on multiple inputs – exercise after action reports (AARs), change in capabilities, etc.

- Designating a commissioned officer, noncommissioned officer (NCO), or civilian staff officer as the CBRN defense officer/element (i.e., emergency disaster planning officer) with installation CBRN defense and emergency response program management responsibilities.

- Assigning the CBRN Officer (i.e., emergency disaster planning officer) the responsibilities for installation CBRN defense and emergency response plan coordination and any supporting staff needed.

- Designating an installation intelligence focal point. If the installation does have a dedicated intelligence specialist assigned, the duty can be assigned on a collateral duty basis.

- Establishing an installation intelligence fusion cell.

- Creating a CBRN emergency response-working group (WG) within the installation force protection committee, and receiving periodic updates and recommendations from the WG. The WG provides recommendations on how to improve the planning, training, and exercising of the installation CBRN defense program. For small installations such as Air

Force bare bases, the WG may be an ad hoc organization with CBRN, operations, intelligence, personnel, and logistics representatives.

- Directing inspections and assessments of installation CBRN readiness and preparedness.

- Executing applicable memorandums of agreement (MOAs) or memorandums of understanding (MOUs) with activities such as tenant units or local civilian jurisdictions that will provide mutual aid.

b. Installation commanders in a foreign operational environment include the following additional requirements:

- Providing an assessment (to the applicable higher command) on the coordinated and combined capabilities of installation and HN CBRN emergency response capabilities to support the installation. This VA assesses the CBRN readiness of the installation's personnel, equipment, and training.

- Integrating installation and HN emergency response capabilities to the degree needed to support sustainment of installation capabilities (e.g., casualty decontamination, CBRN hazard assessment, postattack reconnaissance). Integrated training and planning between U.S. and HN resources supports increased installation readiness.

- Coordinating installation CBRN defense and emergency response plan measures with the respective area or base cluster commander to address measures such as security and/or possible evacuation of DOD personnel and their dependents.

- Receiving briefings on Status of Forces Agreements (SOFAs) and other international agreements affecting CBRN response and HN emergency response capabilities appropriate to the installation.

- Identifying interoperability requirements and mitigation measures to help meet emergency response requirements. For example, mitigation measures could range from communications hardware, or nozzle connections between hoses and HN fire hydrants.

- Monitoring, supporting negotiations and/or implementing MOUs and/or MOAs with HNs, as necessary, to support obtaining HN CBRN defense and emergency response assistance.

- Coordinating training opportunities with supporting HN resources that will periodically exercise existing MOUs and/or MOAs.

- Reviewing and approving exercise scenarios for CBRN exercises that are consistent with the regional threat assessment.

- Identifying CBRN-related mission-essential Universal Joint Task List (UJTL) and associated Service-level tasks that support installation emergency response readiness requirements.

2. Installation Staff

The installation staff is responsible for—

- Developing, implementing, and supervising the organizational CBRN defense program.
- Coordinating with the appropriate command's intelligence section to help ensure awareness of the CBRN and TIM threat. The intelligence section disseminates threat information to the installation and coordinates the with local, state, federal or HN law enforcement and intelligence agencies to maintain an updated CBRN threat analysis.
- Assessing the installation's CBRN readiness and vulnerabilities based upon the threat.
- Developing the installation's CBRN defense plans (plan can be an annex to the existing antiterrorism [AT]/FP plan) and training guidance.
- Coordinating and tracking execution of installation CBRN defense training to include Awareness, Operations and HAZMAT Technician qualification.
- Identifying, tracking and conducting follow up on CBRN defense logistical requirements.
- Participating in the installation's AT WG.
- Including CBRN vulnerabilities in the annual installation threat assessment.
- Providing an installation CBRN threat analysis as part of the Installation VA.
- Integrating installation CBRN emergency response initiatives into installation resource planning.
- Identifying and prioritizing resource shortfalls and providing options on how to mitigate installation CBRN emergency response requirements.
- Ensuring that the installation's CBRN emergency response plan is integrated with local emergency response plans, as necessary, including tenant and transient units.

- Ensuring that the installation develops plans and conducts appropriate training for the general installation population (including tenant and transient unit personnel) and CBRN emergency response teams and personnel.

- Conducting inspections to determine the current status of the installation's capabilities to include strengths and weaknesses of the CBRN emergency response program.

- Conducting periodic installation CBRN VA to determine installation shortfalls and vulnerabilities to CBRN attacks.

- Coordinating meetings, as necessary, with emergency responders on and off the installation on steps such as establishing emergency evacuation routes.

- Incorporating observations and lessons learned from VAs.

- Incorporating in the CBRN defense plan, measures to mitigate the vulnerability of critical infrastructure nodes on the installation and possible support, as appropriate, to critical infrastructure nodes off the installation that may affect an installation's ability to conduct its mission. The assessment may include measures to mitigate vulnerabilities for building heating ventilation and air conditioning (HVAC) systems (e.g., train building personnel on HVAC system use to stop the external flow of air into the building) or preparing building SIP kits.

- Incorporating a communication guideline for standing operating procedures with designated sequences of call signs for coordination with mutual aid partners whenever possible.

- Conducting periodic reviews of CBRN emergency response program and plans (at least annually) to facilitate program enhancement and to ensure compliance with DOD standards.

- Integrating all the various activities and units on the installation into all installation CBRN and AT/FP exercises, as appropriate.

- Conducting liaison with tenant and transient units and providing them with the information required so they become familiar with installation requirements such as warning and reporting. See Appendix C for a sample checklist that could be used for exchange of information between installation and tenant or transient units.

3. CBRN Responders

The responsibilities of CBRN Responders include activities having responsibility for installation response report and update their status and capabilities to respond to a CBRN incident to the installation staff. The installation staff, knowing the capabilities of the available responders, will then include them into the CBRN Defense plan as appropriate.

4. Tenant Units

a. Tenant units report and update their status and capabilities to respond to a CBRN incident to the installation staff. The installation staff, knowing the capabilities of the tenant units, will then include them into the CBRN defense plan, as appropriate.

b. Also, according to the installation response plan, commanders of tenant units provide the applicable staffing and resources. The tenant unit commander also provides the requisite training for their personnel and liaison personnel to support coordinated and sustained operations.

5. Transient Units

Transient units must report their status and capabilities to respond to a CBRN incident to the installation staff when arriving at an installation. The installation staff, knowing the capabilities of the transient units, can then include them into the CBRN defense plan as appropriate.

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Appendix I

CHEMICAL CONTAMINATION CONTROL FOR AIRLIFT OPERATIONS

1. Introduction

a. Successful airlift operations in a chemical environment are dependent on how contamination avoidance and control are performed. Commanders must be aware that contamination control and decontamination may only reduce the hazard and not eliminate it altogether. Once an aircraft is contaminated, it is very difficult to decontaminate completely due to the various materials used in its construction, the ability of some chemical substances to penetrate these materials, and the interior of the aircraft. Contamination avoidance is the best way to deal with this hazard.

b. Units need to have effective procedures that emphasize contamination avoidance. When contamination occurs the priority changes from "avoidance" to "contamination control". The final priority should be decontamination. During decontamination operations, the primary objective is to reduce the contamination hazard to the lowest possible level to enable a reduction in individual protection and to prevent transfer of contamination. To ensure the least degradation of operational effectiveness, commanders will need to apply risk-management to all contamination control procedures.

2. Threat

Airlift operations may be threatened directly or indirectly by the use of chemical weapons. A similar threat exists from toxic industrial chemicals (TICs) from direct attack or through release other than attack (ROTA). Dependent on the substance involved, areas may become contaminated and remain so for extended periods of time.

3. General

a. Purpose. To help personnel and commanders to better control chemical contamination of aircraft, aircrew members and payloads. To this end, principles are being provided that apply to fixed and rotary wing cargo aircraft and supporting environment.

b. Relation of Chemical Contamination Control for Airlift Operations to Mission Priority. The extent of required contamination control actions is based on a range of movement priorities represented by three operational scenarios: Mission Essential, Mission Support, and Retrograde. As operational priorities change so will the contamination control procedures that influence the movement of payloads and the priority for decontamination.

(1) Mission Essential Payloads. This cargo will be moved regardless of contamination. There will be severe shortages of time, materials, and/or personnel to

conduct contamination control activities. The aircraft's interior may become contaminated.

(2) Mission Support Payloads. Some contamination control measures are taken before the cargo is loaded. Limited time, materials, and/or personnel are available to execute contamination control activities. Payloads with liquid hazards will not be loaded. Payloads with vapor hazards are loaded if necessary. The aircraft interior may become a vapor hazard area.

(3) Retrograde Payloads. Adequate time, materials and personnel exist to complete maximum contamination control. No payloads with field detectable vapor or contact hazards will be loaded. The aircraft interior remains contamination free.

4. Contamination Avoidance

Contamination avoidance in airlift operations aims at ensuring the sustainability of such operations by putting into effect those principles that will protect personnel and material resources from becoming unnecessarily contaminated as well as marking of this contamination. Its principles encompass—

- Make every effort, if at all possible, to avoid conducting airlift operations in a chemically contaminated environment. If however, it is essential to conduct operations in such an environment, liquid contamination inside the aircraft should be avoided.
- Practice contamination avoidance procedures around suspected contaminated payloads and areas.
- Prepare, cover, or protect required materials before a chemical attack. (e.g. by using Chemical Agent Resistant Material (CARM), plastic sheeting, or placing under cover).
- Avoid contact with wet or moist areas to include water puddles, outer building walls, trees, leaves, and grass that may contain contamination.
- Use contaminated materials in contaminated areas only and keep uncontaminated materials covered when in use around contaminated materials and areas to preclude cross contamination.
- Mark contamination.

5. Contamination Control

Contamination control in airlift operations aims at managing the contamination in order to minimize its impact on such operations. Its principles encompass:

- When performing contamination control, the command authorities must balance the need for decontamination against the risk of contaminating the interior of the aircraft.

- The aircraft commander must ensure aircrew members and passengers accomplish contamination control procedures when operationally feasible.
- Extreme care must be taken to prevent contamination of the aircraft interiors during ground operations.
- Once chemical contamination has been confirmed, consider the aircraft interior at least a vapor hazard area and the environment outside the aircraft, to include the aircraft itself, to be at most a liquid hazard area.
- Robust aircraft entry and exit procedures must be in effect to prevent cross contamination.
- Contaminated payloads should be positioned in the aircraft to minimize the vapor hazard to the aircrew as well as to payloads. Rotary wing aircraft should consider transporting contaminated cargo externally.
- Payload should be as clean as operationally possible when presented for loading. This is the responsibility of the owner/operator.

6. Decontamination

Decontamination in airlift operations aims at reducing or rendering harmless, temporarily or permanently, the contamination for the purpose of sustaining such operations and minimizing the requirement for both individual and collective protection measures. Its principles encompass:

- Equipment that cannot be fully containerized should be decontaminated such that it does not present a contact hazard. Further decontamination beyond this point is desirable.
- Personnel should be decontaminated such that they do not present a contact hazard. Further decontamination beyond this point is desirable.
- Maximum use of opportunities to weather both contaminated aircraft and payloads should be made.
- Decontamination measures should not damage or interfere with aircraft or payloads so as to compromise the airlift operations.
- Extensive decontamination is labor and resource intensive and may not always be verifiable.
- If contamination avoidance and control measures were not successful or could not be applied, in-flight decontamination can be considered as an option.

7. Avoidance Considerations for Airlift Operations

a. Nonessential Items. All items not required or which may be rendered unusable in a contaminated environment should be removed from the aircraft. This should be done prior to flying into a contaminated area, prior to flying under CBRN Threat Level High conditions, and/or before uploading contaminated payload. Plan minimum time for aircraft ground operations under chemical conditions. Plan for the flight deck to remain isolated throughout operations in a chemical environment, or with contaminated payload, to prevent the physical transfer of liquid contaminants onto it.

b. Pre-flight Crews. If already in a contaminated environment use pre-flight crews, if available, to prepare the aircraft for flight and load aircraft while the crew is in crew rest. Aircrews should complete pre-departure preparations to the maximum extent possible prior to leaving shelters. To aid in decontamination, consider crew members double bagging all personal effects and professional gear prior to leaving the shelter.

c. Information Flow. Be prepared to pass chemical contamination information through approved command and control channels. This information may be used to make divert decisions and prepare for possible contamination control operations.

d. Disposition of Aircraft Equipment. Any aircraft items such as chocks, safety pins, or engine covers that were contaminated during ground operations should be disposed of or placed in clean plastic bags and sealed to restrict aircraft contamination. Ensure these items are labeled as contaminated. Report these contaminated items upon landing.

e. Ground Transportation. Upon arrival at the contaminated aerodrome, request transportation if aircrew must deplane. To minimize aircrew exposure do not deplane until ground transportation is ready for immediate boarding. Aircrew should wear appropriate IPE when deplaning into a contaminated environment. Aircrews will be transported to the aircrew contamination control area each time they deplane or transit a contaminated area.

8. Contamination Control Considerations for Airlift Operations

a. Contamination control procedures will be dependant on the mission priority and, as such, the level and nature of contamination control can be tackled using a tiered approach. Those mission priorities are defined as—

- Mission-essential payloads.
- Mission support payloads.
- Retrograde payloads.

b. Prior to loading, the payload will need to be processed. This should be done through a Contaminated Payload Control Area (CPCA).

9. Contaminated Payload Control Area (CPCA)

a. Design.

(1) General Considerations. Coordinated aerodrome planning is necessary to identify required contamination control areas, contaminated waste disposal areas, associated equipment and to develop specific CPCA set up and operating procedures. Aircrew and their professional equipment should be handled in accordance with STANAG 2426. Aircrew contamination control operations may best be established separate from other operations to avoid cross contamination.

(2) Contaminated Payload Control Area Layout. CPCA layout should be application specific. The CPCA has an entrance, liquid hazard area (LHA) and vapor hazard area (VHA). The LHA is further divided into decontamination and weathering zones. The marshaling and loading zones, as well as the interior of the aircraft, must be considered at least a VHA. Routinely check for contamination spread between these areas and decontaminate as necessary. A line should clearly separate the LHA and VHA. If required, use areas that provide splinter and liquid contaminant protection to establish these zones. Instructional signs, decontaminants, containers, and other equipment and supplies used in the CPCA vary according to the CPCA design, processing rates, and supply availability. Specific considerations for each zone may be:

- **Entrance zone.** In this area payload is monitored for contamination. The area must be downwind from aircraft loading sites (Marshaling Zone), but cross wind from the decontamination zone. Check the payload for contamination at the entrance to the CPCA. Clean payloads should continue to the marshaling zone and contaminated payloads go to the decontamination or weathering zones. Decontaminable items with liquid contamination should proceed to the decontamination zone. Vapor hazard only payloads should go to the marshaling or loading zone only after maximum weathering.

- **Decontamination zone.** Liquid contaminated items that can be decontaminated without being damaged should proceed to the decontamination zone. This site must be established downwind from the Marshaling and Loading Zones. If a liquid contaminated item cannot be pressure or hand decontaminated without being damaged, it should remain in the weathering zone.

- **Weathering zone.** In the weathering zone contaminated payload may be allowed to aerate for as long as possible. Areas should have maximum ventilation, sunlight and temperature appropriate for the payload. Aeration time depends on the temperature, amount and contaminant type, humidity, airflow, and the structure characteristics of the underlying material (its porosity and/or resistance against a contaminant penetration). Accordingly contaminated items should be monitored before removing them

from the weathering area. If available, set aside a vapor concentration/vapor trap area to concentrate vapors for monitoring purposes. Cover or containerize cargo when weathering is complete and load when appropriate.

- **Marshaling zone.** Clean cargo is moved from the Entrance Zone and Decontamination Zone to the Marshaling Zone to await aircraft upload. The marshaling zone is considered a payload overflow area where payloads await movement to the loading area. Clean cargo should be covered or containerized to avoid cross contamination and protected from future contamination.
- **Loading zone.** The loading area is where all aircraft uploading takes place. All payloads in this area are ready for immediate upload, using standard aircraft loading procedures. This area must be established upwind from all other sites
- **Aircraft interior.** Maximum efforts should be taken to keep the aircraft interior from becoming contaminated with liquid chemical compounds. Once contaminated with liquids, the aircraft interior would be extremely difficult to decontaminate.

(3) Contaminated Waste Disposition. Use containers and identify areas to collect contaminated waste and items removed in the CPCA. Provide a waste container in each zone of the CPCA. As a minimum, use containers to hold liquid contaminated items. Liners are recommended for all containers to help remove and store or dispose of their contents. Sealing plastic bags containing contaminated items will significantly reduce vapor levels in the CPCA and ultimately in the aircraft. The number of containers and plastic bags needed depends on the CPCA design, amount of contamination and the CPCA processing rate.

(4) Aircraft Loading. Ideally CPCAs should be laid out to accommodate simultaneous loading of passengers and cargo and inhibit cross-contamination of the aircraft.

b. Duties. The commander will determine the manpower needed for CPCA duties, dependant on CPCA size, design, and processing rate. CPCA duties may include—

- **Supervisor.** The CPCA supervisor would be a pre-designated, CBRN-trained logistician responsible for CPCA management. More than one supervisor may be needed for the decontamination, weathering and loading areas depending on the CPCA design and processing rate.
- **Assistants.** CPCA assistants, if used, are people selected to help operate the CPCA. They would perform assigned CPCA support tasks as directed by the CPCA supervisor. They should have basic CBRN and payload handling knowledge.

10. Mission-Essential Payloads

a. Owner/Operator. Owner/operators should ensure the payload is decontaminated as much as possible before being packed or containerized.

b. Ground Marshaling Personnel. Before cargo is palletized or containerized, ground marshaling personnel should monitor for vapor and liquid contamination to determine the extent of contamination. The payload should then be allowed to weather as long as possible, decontaminated, then covered or containerized to reduce contamination as much as possible.

11. Mission Support Payloads

a. Owner/Operator. The owner/operator should ensure that the payload is decontaminated as much as possible before being packed or containerized.

b. Ground Marshaling Personnel. Before cargo is palletized or containerized, ground marshaling personnel should monitor for vapor and liquid contamination to determine the extent of contamination. The payload should then be allowed to weather as long as possible, decontaminated, then covered or containerized to reduce the contamination to a vapor hazard.

(1) Liquid Hazard Areas/Vapor Hazard Areas. The entrance and decontamination areas are considered liquid hazard areas. For planning purposes consider the payload waiting and loading areas as vapor hazard areas.

(2) Non-Decontaminable Materials. All liquid contamination must be reduced to a negligible risk level. Surfaces such as fabrics, plastics, and wood that cannot be reduced to this level should be covered, removed, discarded, or containerized.

(3) Moving Payloads. After the liquid hazard is removed, the ground crew is to move the payload to the payload waiting or loading area. Loading operations may require using forklifts and similar devices that require decontamination after use.

12. Decontamination Considerations for Airlift Operations

These decontamination considerations are generic in nature and ground personnel will need to modify procedures to fit specific aircraft and payloads. Crews should perform normal periodic aircraft interior/exterior wash procedures and chemical spill clean up procedures according to published technical orders and local guidance.

a. Decontamination Preparation. Remove surfaces such as fabrics, plastics, and wood that may be damaged by decontamination actions (weathering, high pressure wash, hand brushes, or heat) or decontaminants. Preparation of payload will be dependant on its nature.

b. Decontamination Methods. Choose a decontaminant and method of decontamination based on the hazard and possible effects of decontamination. Refer to aircraft technical orders/regulations when choosing a decontaminant. Some aircraft and payloads may be decontaminated by high pressure wash, while others are damaged by

anything more than a slow detailed hand washing. If in doubt, use the hand washing method. Vapor contamination hazards may continue depending on the amount of contamination that has been absorbed. Ensure hazardous run-off is controlled and disposed of appropriately. Decontamination, being a time-consuming process, will only be executed if mission essential. In this case, carry out operational decontamination in order to release the aircraft as soon as possible for future missions.

(1) High Pressure Water Washing. When using high pressure equipment, consideration must be given to the run off produced by this method, as it will contain contamination; contaminated run off will need to be managed, which will steer the decontamination procedures.

(2) Hand Washing. Hand wash aircraft and payloads that cannot be decontaminated by high pressure water systems. Apply the decontaminant with a broom, brush, mop or rag.

(3) Weathering. Weathering is an excellent alternative to washing and should be considered. The use of forced air can aid this process. Any of these methods will reduce the decontamination requirements of the receiving aerodrome.

c. System Checks. Perform system and equipment checks to identify damage or corrosion caused during decontamination operations. Annotate in the aircraft maintenance forms the type of decontaminant and manner of decontamination used. Include other information directed by technical manuals.

d. Effective maximum payload decontamination conducted prior to loading the aircraft, may allow selected passengers and crew members to remove some protective equipment, thus reducing the IPE heat burden. However, depending on the situation, keeping the aircraft contamination free may not be a realistic alternative.

13. Guidance on Retrograde Payloads

a. Allowable Contamination Levels. The inside of the aircraft will be considered a negligible risk area. Complete all decontamination actions prior to loading payload on the aircraft.

b. Owner/Operator Responsibilities. The owner/operator should use weathering, decontaminants and washing procedures as necessary to reduce contamination to a negligible risk level.

c. Airlift User Responsibilities. Troops at forward airheads must make every effort to minimize contamination of their retrograde payloads at the originating site.

d. Use the following guidance to determine if a lower level of in-flight chemical protection can be used with a decontaminated payload.

(1) In-Flight Monitoring. Check for chemical vapors after reaching cruise altitude. Vapor levels may take time to build up to detectable levels and periodic or continual monitoring will be required. Length of flight may render vapor

concentration and off-gassing insufficient to recommend removing chemical protective gear. Aircraft commanders must weigh negligible benefits of short in-flight decontamination against other flight considerations.

(2) Monitoring Areas. As a minimum, the aircrew will monitor the aircraft cargo compartment, flight deck, and any area where a change in protective gear is desired. Vapor levels are likely to be highest in the cargo compartment.

(3) Risk Management. Aircrew should not remove eye/respiratory protection. Other personnel may only remove the protective mask to eat and drink only after performing unmasking procedures. Once immediate needs are satisfied, personnel should don eye/respiratory protection. Aircrew members and/or passengers exposed at any time to a contact hazard, should remain in their complete IPE until processed through an approved contamination control area.

14. Guidance on In-Flight Decontamination

a. Risk Management. The aircraft commander must judge the need to decontaminate the payload in flight against the effects this will have on the mission. In-flight decontamination is not a standard method of decontamination and is only used when absolutely necessary.

b. Maximum Decontamination. If the primary concern is in-flight decontamination of payload, the aircraft commander should consider:

(1) Departure.

(a) During departure, use standard smoke and fume elimination procedures and maximum allowable heat, to purge the aircraft after leaving a contaminated area.

(b) Purging may require an intermediate leveling off at a safe altitude to permit depressurization while conducting these procedures.

(2) Enroute.

(a) Minimizing Vapor Hazards. Consider keeping the payload and the cargo bay at the lowest possible temperature for the duration of the flight to minimize vapor build up. Isolating the flight deck area by use of an expendable barrier (plastic sheeting) or keeping the flight deck door closed will minimize the vapor build up in the flight deck area.

(b) Ventilation. Consider using all ventilation options to reduce vapor contamination in the aircraft.

(c) Minimizing Contact Hazard. Consider decontaminating any aircraft surfaces that are contaminated by the payload.

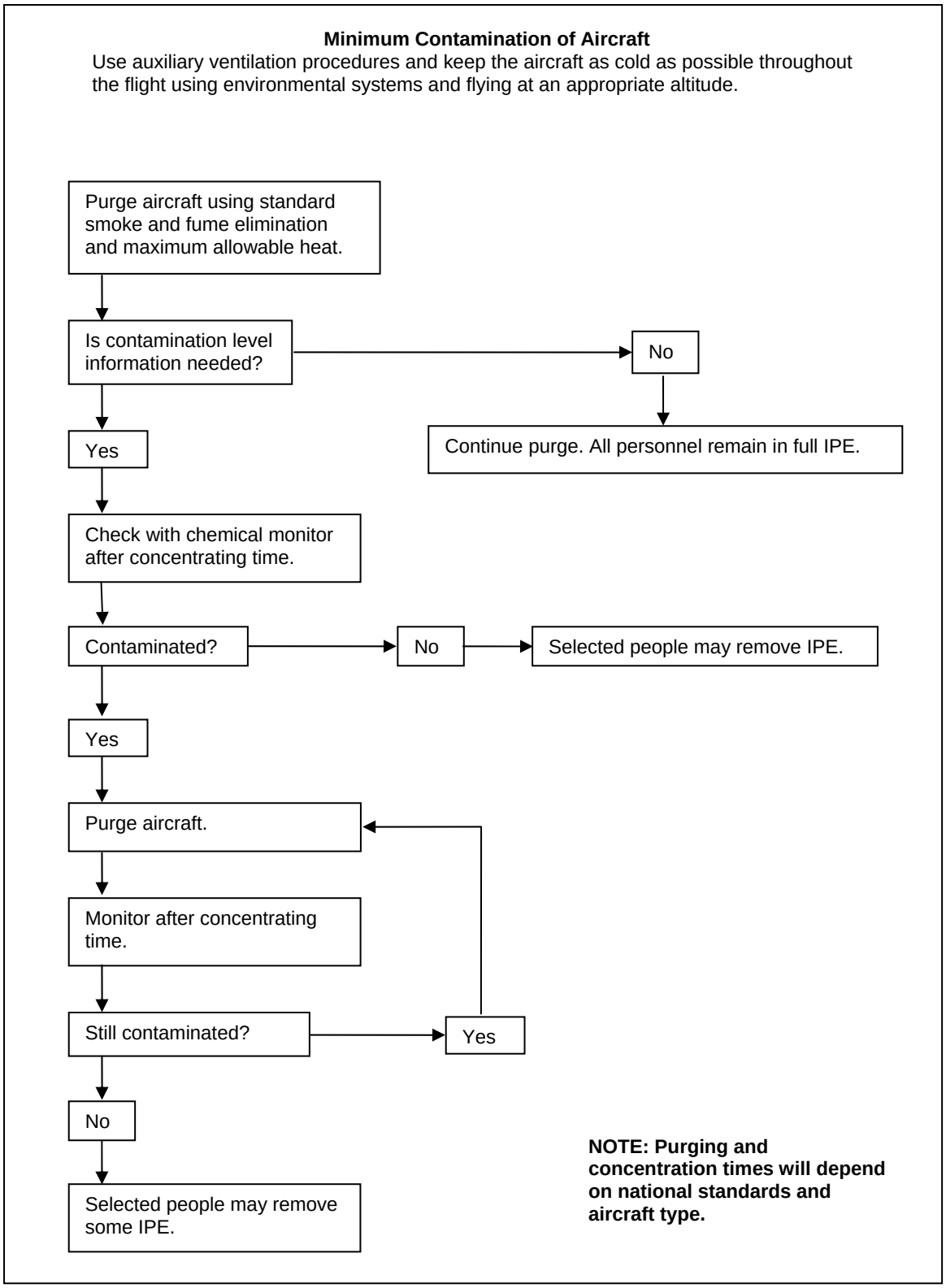

Figure I-1. Basic Flowchart for In-Flight Decontamination

15. CONSIDERATIONS FOR TACTICAL AIRLIFT AND AIRDROP CONTAMINATION CONTROL

a. Scenarios. There are four possible scenarios by which aircraft may be exposed to contamination:

(1) Attack. While on the Ground. To minimize the effect of an attack, the following precautions should be taken, when practicable, whenever the aircraft is shut down on the ground. Hangar aircraft or park close to and downwind of trees and buildings. Close doors and windows. If doors and windows have been removed then alternative covers should be considered. Cover tires and canopy/window with perspex or a similar material.

(2) Fly-Through Contamination. Flight through liquid/particles falling to the ground is extremely unlikely but flight through a vapor hazard may take place. Aircrew and passengers should wear individual protection and, when possible, doors and windows should be closed. Close all non-CBRN air vents, where this is practicable, as a measure against the ingress of chemical substances. If closure is not possible, some form of external over-taping may be appropriate.

(3) Land on Contaminated Ground. When landing a aircraft on contaminated ground or helicopter hovering close to it, the re-circulation of spoil by the prop/rotor wash will result in a significant spread of contamination to the aircraft, people, and area. It may even penetrate to the interior of the aircraft. Aircrew and passengers should wear individual protection and, when possible, doors and windows should be closed. Close all non-CBRN air vents, where this is practicable, as a measure against the ingress of chemical substances. If closure is not possible, some form of external over-taping may be appropriate.

(4) Carry Contaminated Cargo/Personnel. The primary consideration when required to carry contaminated cargo/personnel is to employ contamination avoidance/control procedures to the maximum extent possible. Use of external loads should also be considered, when practical. Flying with doors and windows open will increase the rate of weathering if carrying contaminated troops. When having to carry contaminated personnel or cargo, personnel could undergo a suit change and the cargo could be containerized. Protecting the floor with covers will aid subsequent decontamination but tears in the fabric could increase the risk of contamination behind floorboards and may present a flight safety hazard.

b. Planning. As part of the planning process, the commander should apply risk-management and should assess the likely threat including the risk of exposure to contamination. He will seek to reduce the risk and maximize operational capability by determining levels of aircrew protection and establishing procedures for the decontamination of aircraft and equipment. Commanders should be aware that, depending on the extent of contamination, once any aircraft is contaminated by chemical substances, it may take an unacceptable amount of resources and time, to remove all contamination due to the intrusive and penetrative nature of the substances

involved. During this decontamination, aircrafts would not be supporting ground forces, their major role, which may be unacceptable. Consequently, commanders may have to accept, in the spirit of risk management, operating contaminated aircrafts in the knowledge that the risk to crews and passengers has been reduced to operationally acceptable levels. The following factors should be considered:

- Time for which aircrew must wear IPE.
- Type of mission.
- Capabilities of unit CBRN personnel.
- External support available from CBRN units.
- Decontamination assistance available from the supported unit.
- Support available to detached elements.
- Designation of a decontamination site.
- Employing hazard avoidance whenever possible within the context of the mission.
- Selection of optimum sites and landing techniques minimize airframe and underslung load contamination.
- Availability of a toxic free area.
- The availability of CBRN warning and report information.

c. Detection. Detection and alarm equipment will usually provide adequate warning of many chemical hazards to aircraft sites although it may take some time to assess the precise nature and likely duration of contamination. In the air, visual detection of liquids is possible using chemical detection paper attached to the windscreen of the aircraft and chemical alarms may also be fitted. Where adequate stand-off chemical detection technologies exist, not interfering with the payload of the aircraft, nations should consider their employment as a means of advanced warning of chemical hazard to safeguard aircrews and their passengers.

(1) On-board the aircraft, CBRN equipment may be used to detect, identify and monitor levels of chemical hazard; however, chemically sensitive papers will only detect and identify liquid chemical agents.

(2) On-board CBRN detection is unlikely to provide aircrew or passengers sufficient warning time to mask up when in flight to protect them against the effects of the threat substance. This is especially the case with nerve agents where equipment would be required to detect minute quantities to prevent the aircrew from suffering from miosis.

d. Contamination Avoidance.

(1) Commander should have access to CBRN Warning and Reporting information to inform them of hazard areas. CBRN reconnaissance and survey will deny or confirm hazard areas.

(2) If aircraft must land in contaminated areas, consider the tactical situation and if possible pick landing zones that will have a reduced transfer effect.

(3) Contaminated crews should conduct airframe inspections without touching or shaking items (when possible). Many points can be inspected visually.

(4) If possible, provide overhead cover for parked aircraft. Ensure engine plugs, fly away gear and hatches are in place whenever possible.

(5) Apply adhesive detection paper to the landing gear of the aircraft. Groundcrew should monitor the aircraft for contamination before servicing and after sorties. Another piece of adhesive detection paper can be placed on the windscreen where the aircrew can see it.

(6) During terrain flight, areas of heavy vegetation should be avoided because vapor is dispersed less quickly where the wind is blocked. Open areas or high ground afford the best opportunity to evade this hazard.

(7) Artillery impact areas should be avoided as chemical munitions may have been used.

e. Contamination Control.

(1) Ground crews could conduct operations without requiring the aircrew to exit the aircraft.

(2) Limit the number of aircraft that must operate in a contaminated area or use aircraft already contaminated.

(3) When carrying contaminated personnel or casualties, lining the troop compartment with a chemically resistant material is a field expedient way to limit the spread of contamination. Additionally, such material can be fastened between the troop compartment and the flight compartment to limit vapors from entering the compartment.

(4) In addition, any servicing or turn around of aircrafts suspected of being contaminated must be accompanied by CBRN monitoring.

f. Levels of Decontamination. Once a aircraft is contaminated it is difficult to decontaminate it completely. The tactical situation and the availability of aircraft will determine the degree of decontamination attempted. The goal of all decontamination efforts will be to reduce the hazard to the lowest possible level. Only specialist decontamination units, usually established in the rear area, will be able to conduct thorough decontamination to permit a reduction in protective clothing. It may be necessary to continue to operate aircrafts in a contaminated condition before they too can be subjected to decontamination procedures, but, in this event, all who may come into contact with contaminated aircrafts must be suitably attired and made aware of the conditions they face. Routine flight and ground operations with rotors turning help to decontaminate exterior surfaces of the aircraft; however, this could result in the ground contamination being transferred back onto the aircraft in a self-defeating process. The use of weathering should be applied whenever possible. Care must be taken not to spread contamination to clean parts of the aircraft. There are three options to be considered:

(1) Immediate Decontamination. The purpose of immediate decontamination is to save lives and minimize casualties. Initial effort will, therefore, be concentrated on personnel.

(2) Operational Decontamination. To enable operations to be sustained for longer periods it will be necessary for units to carry out operational decontamination of aircrafts in order to reduce further risks to personnel. Unit commanders should select sites dedicated to the decontamination of aircraft and organize them to take account of aircraft type, mission, terrain and wind conditions. If necessary, operational decontamination may be accomplished in two stages:

(a) Stage 1. Selected areas of the aircraft that are likely to be touched by personnel (landing gear, fuel ports, doors, steps, and hand holds) are decontaminated to limit the transfer and spread of contamination. Wash exterior surfaces with decontaminants to flush off contamination. Fuel, surfactant, and water are most commonly used. Ensure run-off is contained, appropriately marked and disposed of as contaminated waste.

(b) Stage 2. As soon as time and resources permit, all external and accessible internal surfaces may be decontaminated. The primary concern is to wash contaminants from the aircraft exterior and, as a minimum, the internal cabin floor. Ensure run-off is contained, appropriately marked and disposed of as contaminated waste.

(3) Thorough Decontamination. Thorough decontamination of aircrafts are best accomplished at sites in the rear area established by CBRN specialists. Thorough decontamination is a lengthy process, the aim of which is to reduce contamination to the lowest possible levels, thus permitting the partial or total removal of individual protection and the continuation of operations with minimum degradation. After deplaning of personnel and removal of role equipment, all parts of the aircraft including engine, transmission and equipment compartments must be checked and cleansed. Some panels and equipment will have to be removed and the aircraft must, therefore, be shut down.

g. Decontamination Guidance. Equipment will vary by nation but large quantities of water will be required. The most common decontamination procedure is to wash with hot water containing a surfactant followed by a clear water rinse, avoiding spraying water on electrical components. Water pressure should be adjusted to avoid damaging the aircraft. Hot air, if available, should be directed onto sensitive components that cannot be washed. Only approved cleaning compounds should be used. If pressurized water is used, all blanking plates should be in position and vulnerable apertures should be sealed.

(1) Standard Decontaminates. No effective chemical compound is available for full aircraft decontamination. Some decontaminants are not considered safe for use on aircraft. Units should exercise caution when selecting decontaminates.

(2) Expedient Decontaminates. Soap and water, kerosene, aircraft fuel and diesel fuels are approved as decontaminants on selected parts of the aircraft. Fuel is effective in removing some agents from aircraft skin and components; however, it does not neutralize the agents. If water is available, personnel should use it to rinse off the fuel. Many parts of the aircraft are delicate and cannot stand high pressure water or extreme hot air.

h. Site Requirements. The decontamination site must be capable of accommodating the appropriate aircraft type in the required numbers.

(1) It should be relatively secure but close enough to refueling and rearming points to permit a reasonably quick turn around if required.

(2) The site should have sufficient terrain flight routes to facilitate entry and exit.

(3) A slight slope to the terrain is desirable but must remain within aircraft limits.

(4) It is preferable to sequence groups of aircraft through the decontamination site to prevent arriving or departing aircraft interfering with decontamination operations.

(5) Depending on personnel and resources available, it may be possible to cleanse several aircraft simultaneously.

Table I-1. Generic Matrix for Aircraft/Payload Handling

Payload	**Essential**			**Support**			**Retrograde**		
Payload contamination status	**Clean**	**LH**	**VH**	**Clean**	**LH**	**VH**	**Clean**	**LH**	**VH**
Aircraft status	**Clean**								
Detection	X	X	X	X	X	X	X	X	X
Decontamination		X[1]			X			X	
Weathering		X[1]	X		X	X		X	X
Containerizing		X[1]			X				
Loading	X	X	X	X	X	X	X	X[2]	X[2]
Aircraft status	**Contaminated**								
Detection	X	X	X	X	X	X	X	X	X
Decontamination		X			X			X	
Weathering			X			X		X	X
Containerizing	X[1]			X			X	X	X
Loading	X	X	X	X	X	X	X	X[2]	X[2]

[1]Time permitting

[2]Only clearance (level 4) decontaminated

Supervisor Checklist

- ❑ Set up the CPCA areas and post instructions.
- ❑ Ensure decontaminant (e.g., filled shuffle box or pit) is at the entrances and exits of all areas.
- ❑ Ensure equipment (e.g. boxes or chairs) is available to allow decontamination of the underside of payload.
- ❑ Ensure containers are filled with expedient decontaminant.
- ❑ Ensure containers and liners are in each area for removed and/or discarded items.
- ❑ Identify the areas designated for contaminated waste and trash disposal, weathering, and pressure/hand decontamination.
- ❑ Ensure the areas where CPCA equipment and supplies are kept and the locations of all the CPCA areas are clearly marked.
- ❑ Ensure equipment and decontaminants are available to decontaminate the CPCA as necessary
- ❑ Establish a clean route to and from each area. Post instructions as needed.
- ❑ Coordinate with command and control authorities for required assistants:
  - ✓ Brief assistants and provide them with checklists.
  - ✓ Set work, rest, and replacement cycles for assistants.
  - ✓ Supervise assistants.
- ❑ Monitor and prompt CPCA users to:
  - ✓ Follow instructions.
  - ✓ Use contamination avoidance procedures whenever possible.
  - ✓ Maintain a steady processing flow.
- ❑ Restock the CPCA supplies.
- ❑ Decontaminate and clean the CPCA; remove contaminated items regularly.

Figure I-2. Sample Supervisor Checklist

Assistant Checklist

- ❑ Check payload for liquid contamination at CPCA entrance area.
- ❑ Segregate and move uncontaminated and vapor hazard only payload to waiting/loading area as appropriate for the situation.
- ❑ If liquid contaminated—
  - ✓ Move items to the LHA weathering area.
  - ✓ Place items for weathering far enough apart to allow all sides to aerate.
  - ✓ Remove tape, labels, and other disposable contaminated items from weathering equipment and sort as needed to ease a load identification.
  - ✓ Depending on payload, situation, and available equipment, routinely check for liquid contamination. Move to waiting/loading area as appropriate.
  - ✓ Clean the weathering area and remove trash.
- ❑ Move items that can be pressure or hand decontaminated using local resources to the pressure/hand decontamination area.
- ❑ Decontaminate liquid hazards with any available decontaminant. Apply with mops, brooms, brushes, or rags as appropriate. Avoid contact with contamination.
  - ✓ Monitor for liquid contamination.
  - ✓ Continue to decon as necessary. If no liquid contamination is found, remove payload to weathering, waiting or loading area according to the situation. Avoid contamination transfer. Rinse or brush off excess decontaminant.
- ❑ Clean, monitor, and decontaminate the LHA. Remove trash and contaminated items as necessary
- ❑ Keep decontaminant containers filled.
- ❑ Collect, bag, and dispose of contaminated waste items as appropriate.

Figure I-3. Sample Assistant Checklist

Aircrew Decontamination Checklist

- ❑ Aircrew life support personnel/equipment specialist will establish an aircrew contamination control area (ACCA) when directed.
- ❑ Aircrews will remain onboard until directed to the ACCA.
- ❑ Maintenance personnel will wipe down the hatch area to remove any liquid contamination.
- ❑ Aircrew personnel will be transported in a covered vehicle with all windows opened to aid in off-gassing.
- ❑ Aircrew personnel will be decontaminated in accordance with technical data/established procedures.
- ❑ Wastewater will be collected and disposed of in accordance with disposal plans.
- ❑ Contaminated equipment items will be decontaminated and/or collected for disposal. Items collected for disposal will be placed in sealed plastic bags.
- ❑ Life support/equipment specialists will return aircrews to a "ready-to-fly" status as soon as possible.
- ❑ Contaminated vehicles will not be used to transport clean crew members.
- ❑ All crew members will be seen by a medical specialist after processing through the ACCA.

Figure I-4. Sample Aircrew Decontamination Checklist

Mission-Essential Loading Checklist

- ❑ Monitor payload for contamination.
- ❑ Load liquid contaminated cargo if aircraft interior is already contaminated or restricted to operations in a contaminated area.
- ❑ If mission permits, decontaminate payload:
  - ✓ Weather in well ventilated, sunlit area.
  - ✓ Wash with a sodium hypochlorite solution (house hold bleach) or equivalent. Apply undiluted with brooms, brushes, mops, or rags. Allow 5 to 15 minute contact time before rinsing.
  - ✓ Load cargo whenever mission dictates, but consider maximizing ground time for payload decontamination to reduce risk to crew and aircraft.
- ❑ Monitor payload for liquid contamination.
- ❑ Decontaminate, seal, cover and/or containerize contaminated payload if mission permits.
- ❑ Monitor payload.
- ❑ Load payload as mission requires.
- ❑ Use in-flight decontamination checklist.

NOTE: Load cargo when monitoring determines no contact hazard is present.

Figure I-5. Sample Mission-Essential Loading Checklist

Mission Support Loading Checklist

- ❑ Monitor payload for contamination.
- ❑ Decontaminate payload as mission permits:
  - ✓ Weather in well-ventilated, sunlit area.
  - ✓ Wash with a sodium hypochlorite solution (household bleach) or equivalent.
  - ✓ Apply undiluted with brooms, brushes, or mops. Allow 5- to 15-minute contact time before rinsing.
- ❑ Monitor payload.
- ❑ Seal, cover, and/or containerize contaminated payload if mission permits.
- ❑ Monitor payload.
- ❑ Weather/wash and repalletize contaminated payload if mission permits.
- ❑ Redo checklist until contamination is a vapor hazard only, and then load payload.
- ❑ Use in-flight decontamination checklist.

NOTE: Load cargo anytime monitoring determines no contact hazard is present.

Figure I-6. Sample Mission Support Loading Checklist

Retrograde Loading Checklist

- ❑ Monitor payload for contamination.
- ❑ Weather and wash contaminated payload until no contamination is detected.
- ❑ Monitor payload.
- ❑ Move decontaminated payload to wind-sheltered area and monitor.
- ❑ If liquid contamination is found, return to Step 2.
- ❑ If vapor contamination is found, allow payload to off-gas and return to Step 4.

NOTEL Load cargo anytime monitoring determines no vapor or contact contamination is present.

Figure I-7. Sample Retrograde Loading Checklist

In-Flight Decontamination Checklist for Maximum Decontamination of Payload

- ❑ Purge aircraft using standard smoke and fume elimination procedures (10,000 to 13,000 feet above mean sea level [MSL]).
- ❑ Stop smoke and fume elimination procedures for 45 minutes chemical concentrating time, maintaining maximum heat setting for cargo and passengers
- ❑ Monitor for contamination using chemical-agent vapor detector. Operators must wear full chemical protective equipment.
- ❑ Continue hourly purge/concentrating monitor cycles until no vapor contamination is detected.
- ❑ If no contamination is detected, personnel may remove below-the-shoulder chemical protection.

Continue to check for vapor contamination every 60 minutes.

Figure I-8. Sample In-Flight Decontamination Checklist for Maximum Decontamination of Payload

In-Flight Decontamination Checklist
for Minimum Contamination of Aircraft

- ❑ Use auxiliary ventilation procedures to minimize vapor hazards and vapor adsorption into the aircraft.
- ❑ Keep the payload as cold as possible throughout the flight using the environmental systems.
- ❑ Mission permitting, fly at an appropriate altitude to reduce the temperature for the duration of the flight.

Figure I-9. Sample In-Flight Decontamination Checklist for Minimum Contamination of Aircraft

Appendix J

INSTALLATION CBRN DEFENSE CAPABILITY PACKAGES

1. Tiered Approach to Installation CBRN Defense Capabilities

Installations implement a combination of manning, training, and equipping the response force for CBRN defense on a graduated scale based on priority. This approach is flexible enough to accommodate the needs of specific installations, while standardizing major system elements to provide cost effective solutions. Installations will be assigned one of three priorities - Tier 0, Tier 1, or Tier 2 – to align with capabilities outlined in DoDI 2000.18.

2. Tier 0 – Baseline Capability Package

a. Tier 0 (baseline capability) establishes the foundation for installations to maintain a standard level of preparedness. This tier applies to all installations, including those without critical or strategic operational missions or capabilities, such as training bases. Baseline capabilities primarily focus on training, planning, exercises, and doctrine/policy. This includes focusing on interoperability with local and HN responders. This tier assumes that the installation has limited emergency and HAZMAT response, EMS, and installation law enforcement capabilities. Emergency operations capabilities are ad hoc and not considered robust, exercised, or resourced.

b. The baseline capabilities are the lowest level of acceptable capability for military installations and facilities. Awareness is the lowest common level of preparedness that installations must be capable of to establish a standard set of capabilities among military installations and facilities, regardless of service or DoD efforts to prioritize them. A brief description of these is provided below. Training includes providing computer-based training products for:

- CBRN awareness for the installation population.
- CBRN incident response and management tailored for command staff, law enforcement/ security personnel, firefighters, specialized CBRN responders, and medical personnel.

c. Baseline capabilities establish a foundation for commanders to implement in tactical environments during operational deployments into a theater of operations.

3. Tier 1 – Enhanced Capability Package

a. Tier 1 (enhanced capability) focuses on providing critical missions and increasing emergency responders' ability to respond to and operate in CBRN environments. This tier is not directly influenced by the existence of critical missions but does provide basic capabilities.

b. The Tier 1 capability package includes Baseline capabilities augmented by the following:

- Detection equipment for detecting, identifying, and sampling CBRN materials – to include handheld detectors and field analysis/characterization equipment.
- Emergency responder equipment. Includes HAZMAT ensembles (Levels A, B, and C), respiratory protection equipment (self-contained breathing apparatus and positive-pressure masks), PPE, and related support equipment. This equipment provides alarming dosimeters for exposure control and medical countermeasures. This equipment is for emergency responder use only.
- Mass casualty support. Includes decontamination showers and tents, decontaminants, litters, and support equipment.
- Miscellaneous HAZMAT response equipment. Includes equipment for communications, on-scene meteorological data, HAZMAT team support, and marking and controlling hazards.
- Mass notification system, to be focused on major populated areas (e.g., dormitories, , industrial areas, etc.). System design and installation is dependent on the geography and communication infrastructure resident on each installation. Typical mass notification technologies include Giant Voice, telephone alerting systems, tone alert radios, and network pop-ups.
- Decision Support Tools (DSTs). Includes handheld computers with incident management software for on-scene use, computers with hazard modeling and incident management software for Emergency Operations Center use, and other HAZMAT reference materials.
- Training for Tier 1 installations, consisting of on-site and computer-based training for all new capabilities. The parent Service or agency will coordinate with the program on the best training approach for their installations.

4. Tier 2 – Advanced Capability Package

a. Tier 2 (advanced capability) provides advanced capabilities to installations. This tier gives critical missions and installation emergency responders the greatest latitude in responding to CBRN incidents. Tier 2 is directly influenced by the criticality of an installation or facility and assumes that the nature of the mission requires the mitigation or acceptance of minimal risk. Tier 2 is parallel to a technician level of HAZMAT capability on the installation.

b. The Tier 2 capability package includes Baseline and Tier 1 capabilities augmented by the following:

- Chemical detectors for TIMs and warfare agents will be placed around critical mission areas and networked to the DSS and COLPRO systems.
- Biological collection devices will be placed around critical mission areas, and samples will be collected daily. Samples will be analyzed in accordance with DoD and Centers for Disease Control and Prevention guidelines and in the most cost-effective manner possible.
- Critical mission facilities (up to 10,000 square feet) will be collectively protected to ensure mission continuity.
- Escape masks will be available to reduce the risk of injury to personnel working in COLPRO.

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REFERENCES

Department of Defense

DOD 6055.06-M, *DOD Fire and Emergency Services Certification Program*, 23 February 2006.

DODD 2000.12, *DOD Antiterrorism (AT) Program*, 18 August 2003.

DOD 0-2000.12-H, *DOD Antiterrorism Handbook*, February 2004.

DOD 0-2000.12-P, *DOD Antiterrorism Handbook*, February 2004.

DODD 3025.1, *Military Support to Civil Authorities (MSCA)*, 15 January 1993.

DODD 3025.15, *Military Assistance to Civil Authorities*, 18 February 1997.

DODD 3150.8, *DOD Response to Radiological Accidents*, 13 June 1996.

DODD 4715.1E, *Environment, Safety, and Occupational Health (ESOH)*, 19 March 2005

DODD 5525.5, *DOD Cooperation with Civilian Law Enforcement Officials*, 15 January 1986.

DODD 6200.3, *Emergency Health Powers on Military Installations*, 12 May 2003.

DODD 6490.02E, *Comprehensive Health Surveillance*, 21 October 2004.

DODI 2000.16, *DOD Antiterrorism (AT) Standards*, 2 October 2006.

DODI 2000.18, *Department of Defense Installation Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive Emergency Response Guidelines*, 4 December 2002.

DODI 2000.21, *Foreign Consequence Management (FCM)*, 10 March 2006.

DODI 3020.41, *Contractor Personnel Authorized to Accompany the U.S. Armed Forces*, 3 October 2005.

DODI 6055.1, *DOD Safety and Occupational Health (SOH) Program*, 19 August 1998.

DODI 6055.06, *DOD Fire and Emergency Services (F&ES) Program*, 21 December 2006.

DODI 6490.03, *Deployment Health*, 11 August 2006.

Joint

JP 1-02, *DOD Dictionary of Military and Associated Terms*, 12 April 2001.

JP 3-10, *Joint Security Operations in Theater*, 1 August 2006.

JP 4-02, *Health Service Support*, 31 October 2006.

JP 4-05.1, *Joint Tactics, Techniques, and Procedures for Manpower Mobilization and Demobilization Operations: Reserve Component (RC) Callup*, 11 November 1998.

JP 4-06, *Mortuary Affairs in Joint Operations*, 5 June 2006.

Multiservice

FM 1-02/MCRP 5-12A, *Operational Terms and Graphics*, 21 September 2004.

FM 3-11.3/MCRP 3-37.2A/NTTP 3-11.25/AFTTP(I) 3-2.56, *Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear (CBRN) Contamination Avoidance*, 2 February 2006.

FM 3-11.4/MCWP 3-37.2/NTTP 3-11.27/AFTTP(I) 3-2.46, *Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection*, 2 June 2003.

FM 3-11.5/MCWP 3-37.3/NTTP 3-11.26/AFTTP(I) 3-2.60, *Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination*, 4 April 2006.

FM 3-11.9/MCRP 3-37.1B/NTRP 3-11.32/AFTTP(I) 3-2.55, *Potential Military Chemical/Biological Agents and Compounds*, 10 January 2005.

FM 3-11.14/MCRP 3-37.1A/NTTP 3-11.28/AFTTP(I) 3-2.54, *Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Vulnerability Assessment*, 28 December 2004.

FM 3-11.19/MCWP 3-37.4/NTTP 3-11.29/AFTTP (I) 3-2.44, *Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Reconnaissance*, 30 July 2004.

FM 3-11.21/MCRP 3-37.2C/NTTP 3-11.24/AFTTP(I) 3-2.37, *Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Aspects of Consequence Management*, 12 December 2001.

FM 3-11.86/MCWP 3-37.1C/NTTP 3-11.31/AFTTP(I) 3-2.52, *Multiservice Tactics, Techniques, and Procedures for Biological Surveillance*, 4 October 2004.

FM 4-02.283/NTRP 4-02.21/AFMAN 44-161(I)/MCRP 4-11.1B, *Treatment of Nuclear and Radiological Casualties*, 20 December 2001.

FM 4-25.11/NTRP 4-02.1.1/AFMAN 44-163(I)/MCRP 3-02G, *First Aid*, 23 December 2002.

FM 8-284/NAVMED P-5042/AFMAN(I) 44-156/MCRP 4-11.1C, *Treatment of Biological Warfare Agent Casualties*, 17 July 2000.

TM 3-4240-288-12&P/NAVFAC P-475, *Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Collective Protection Equipment NBC*, Simplified M20 (NSN 4240-01-166-2254), 20 August 1987.

Army

AR 500-3, *U.S. Army Continuity of Operations (COOP) Program Policy and Planning,* 12 April 2006.

DA Form 12-99-R, *Initial Distribution (ID) Requirements for Publications.*

FM 4-02, *Force Health Protection in a Global Environment,* 13 February 2003.

FM 4-02.1 *Combat Health Logistics,* 28 September 2001.

FM 4-02.4, *Medical Platoon Leader's Handbook Tactics, Techniques, and Procedures,* 24 August 2001.

FM 4-02.6, *The Medical Company Tactics, Techniques, and Procedures,* 1 August 2002.

FM 4-02.7, *Health Service Support in a Nuclear, Biological, and Chemical Environment Tactics, Techniques, and Procedures,* 1 October 2002.

FM 4-02.10, *Theater Hospitalization,* 3 January 2005.

FM 4-02.17, *Preventive Medicine Services,* 28 August 2000.

FM 4-02.18, *Veterinary Services Tactics, Techniques, and Procedures,* 30 December 2004.

FM 4-02.24, *Area Support Medical Battalion Tactics, Techniques, and Procedures,* 28 August 2000.

FM 4-02.33, *Control of Communicable Diseases Manual (18th Edition),* 1 June 2005.

FM 4-02.51, *Combat and Operational Stress Control,* 6 July 2006.

FM 5-0, *Army Planning and Orders Production,* 20 January 2005.

FM 8-42, *Combat Health Support in Stability Operations and Support Operations,* 27 October 1997.

FM 8-500, *Hazardous Materials Injuries: A Manual for Prehospital Care (Fourth Edition),* 17 January 1997.

FM 8-10-6, *Medical Evacuation in a Theater of Operations Tactics, Techniques, and Procedures,* 14 April 2000.

FM 21-10, *Field Hygiene and Sanitation,* 21 June 2000.

FM 22-51, *Leaders' Manual for Combat Stress Control,* 29 September 1994.

TC 8-13, *Deployable Medical Systems—Tactics, Techniques, and Procedures,* 7 December 1990.

TM 10-5410-228-10, *Operator's Manual for Chemical Biological Protective Shelter (CBPS) System (NSN 5410-01-441-8054) (Green) (5410-01-482-4633) (Tan),* 19 March 2004.

TM 10-5410-283-14&P, *Operator's, Unit, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists) for Chemically Protected Deployable Medical System (CP DEPMEDS) (NSN 5410-01-479-9730) (5410-01-479-9727) and CPDEPMEDS Training Set (6910-01-479-2464)*, 30 November 2001.

Air Force

AFMAN 10-401, Volume 1, *Operation Plan and Concept Plan Development and Implementation*, 19 May 2003.

AFMAN 32-4004, *Emergency Response Operations*, 1 December 1995.

Marine Corps

MCWP 5-1, *Marine Corps Planning Process*, 5 January 2000.

Navy

OPNAVINST 3440.17, *Navy Installation Emergency Management Program*, 22 July 2005.

OPNAVINST 5100.23G, *Navy Safety and Occupational and Health (SOH) Program Manual*, 30 December 2005.

NATO Standardization Agreements (STANAG) and Publications

STANAG 2002 CBRN (Edition 10), *Warning Signs for the Marking of Nuclear, Biological and Chemical Contaminations*, 28 March 2006.

STANAG 2047 CBRN (Edition 7), *Emergency Alarms of Hazard or Attack (NBC and Air Attack Only)*, 24 July 1998.

STANAG 2873 CBRN/MED (Edition 4), *Concept of Operations of Medical Support in Chemical, Biological, Radiological, and Nuclear Environments—AMedP-7(D)*, 06 December 2007.

STANAG 2984 CBRN (Edition 6), *Graduated Levels of Chemical, Biological, Radiological, and Nuclear Threats and Associated Protective Measures*, 08 August 2007.

STANAG 4359 LAND (Edition 1). *NATO Handbook for Sampling and Identification of Chemical Warfare Agents (AEP-10)*. 29 January 1991.

Other Sources

Department of Transportation, *2004 Emergency Response Guidebook, A Guidebook for First Responders During the Initial Phase of a Dangerous Goods/Hazardous Materials Incident* (http://hazmat.dot.gov/pubs/erg/gydebook.htm).

Homeland Security Presidential Directive/HSPD-5, Management of Domestic Incidents, 28 February 2003 (http://www.nimsonline.com/presidential_directives/hspd.5.htm).

Homeland Security Presidential Directive/HSPD-8, National Preparedness, 17 December 2003 (http://www.whitehouse.gov/news/releases/2003/12/20031217-6.html).

Section 101, Title 10, United States Code, *Definitions*.

Section 371, Title 10, United States Code, *Use of Information Collected During Military Operations*.

Section 175, Title 18, United States Code, *Prohibitions With Respect to Biological Weapons*.

Section 229, Title 18, United States Code, *Prohibited Activities*.

Section 1385, Title 18, United States Code, *Use of Army and Air Force as Posse Comitatus*.

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GLOSSARY

PART I—ABBREVIATIONS AND ACRONYMS

A

AAR	after-action review
AEP	Allied Engineering Publication
AFB	Air Force base
AFMAN	Air Force manual
AFRRI	Armed Forces Radiobiology Research Institute
AG	adjutant general
AL	Alabama
ALARA	as low as reasonably achievable
AML	area medical laboratory
AR	Army regulation
AO	area of operations
AOI	area of interest
AOR	area of responsibility
ASR	atmosphere-supplying respirator
AT	antiterrorism
ATP	allied tactical publication
ATTN	attention
AWACS	Airborne Warning and Control System

B

BAT	Biological Augmentation Team
BDRD	Biological Defense Research Directorate
BEE	bioenvironmental engineer
BW	biological warfare

C

C	Celsius
C2	command and control
C4I	command, control, communications, computers, and intelligence
CAM	chemical-agent monitor
CB	chemical-biological
CBPS	chemical biological protective shelter
CBR	chemical, biological, and radiological
CBRN	CBRN
CBRNE	chemical, biological, radiological, nuclear, and high-yield explosives
CBRNWRS	CBRN Warning and Reporting System

CCA	contamination control area
CCIR	commander's critical information requirements
CDC	Centers for Disease Control and Prevention
CDF	contractors deploying with the force
CFR	Code of Federal Regulations
CG	commanding general
CHPPM	US Army Center for Health Promotion and Preventive Medicine
CID	Criminal Investigation Division
CJCS	Chairman of the Joint Chiefs of Staff
CM	consequence management
CMAT	Consequence Management Advisory Team
CMT	crisis management team
COA	course of action
COCOM	combatant command
COLPRO	collective protection
COMM	communications
CONEX	container express
CONPLAN	concept plan
CONOPS	concept of operations
CONUS	continental United States
COP	common operational picture
COSC	combat and operational stress control
COSR	combat and operational stress reaction
CP	counterproliferation
CPDEPMEDS	Chemically Protected Deployable Medical System
CPEMEDS	Collectively Protected Expeditionary Medical Support
CRAF	Civil Reserve Air Fleet
CST	civil support team
CW	chemical warfare

D

DA	Department of the Army
DCO	defense coordinating officer
DD	Department of Defense
DHS	Department of Homeland Security
DOD	Department of Defense
DODD	Department of Defense directive
DODI	Department of Defense instruction
DOS	Department of State
DST	decision support tool
DTRA	Defense Threat Reduction Agency

E

EMS	emergency medical services
EMT	emergency medical technician
EOC	emergency operations center
EOD	explosive ordnance disposal
EPA	Environmental Protection Agency
ERG	Emergency Response Guidebook
ESF	emergency support function

F

F	Fahrenheit
FBI	Federal Bureau of Investigation
FDPMU	Forward-Deployable Preventive Medicine Unit
FEMA	Federal Emergency Management Agency
FHP	force health protection
FL	Florida
FM	field manual (Army)
FMFM	Fleet Marine Force Manual
FOE	follow-on element
FOV	field of view
FP	force protection
FPCON	force protection condition

H

HAZMAT	hazardous materials
HEPA	high-efficiency particulate air
HHS	Health and Human Services
HN	host nation
HNS	host nation support
HQ	headquarters
HR	hour(s)
HSAS	Homeland Security Advisory System
HTH	high-test hypochlorite
HVAC	heating, ventilation, and air conditioning
HVT	high-value target

I

IAP	incident action plan
IC	incident commander
ICAM	improved chemical agent monitor
ICP	incident control point
ICS	incident command system
IDLH	immediately dangerous to life or health

IED	improvised explosive device
IIMG	Interagency Incident Management Group
IM	information management
IMS	Incident Management System
IPB	intelligence preparation of the battlespace
IPE	individual protective equipment
IRT	incident response team

J

JA	judge advocate
JAG	Judge Advocate General
JBAIDS	Joint Biological Agent Identification and Diagnostic System
JBPDS	Joint Biological Point Detection System
JF	joint force
JFC	joint force commander
JFO	joint field office
JP	joint publication
JRC	Joint Reception Center
JRO	Joint Requirement Office
JRSOI	joint reception, staging, onward movement, and integration
JSLIST	Joint Service Lightweight Integrated Suit Technology
JSTARS	Joint Surveillance Target Attack Radar System
JTF	joint task force
JTTP	joint tactics, techniques, and procedures
JWARN	Joint Warning and Reporting Network

K

k	kilo
kg	kilogram(s)
km	kilometer(s)
kph	kilometers per hour

L

LEA	law enforcement agency
LFA	lead federal agency
LLR	low-level radiation
LOTS	logistics over-the-shore
LOC	line of communications
LRN	Laboratory Response Network

M

m	meter(s)
m²	square meters
MAA	mutual aid agreement
MADCP	mortuary affairs decontamination collection point
MARS	Military Affiliate Radio System
MASCAL	mass casualty
MANSCEN	Maneuver Support Center
MCC	mission control center
MCCDC	Marine Corps Combat Development Command
MCHT	modular chemically hardened tent
MCPS	modular command post system
MCRP	Marine Corps reference publication
MCWP	Marine Corps Warfighting Publication
MD	Maryland
MEDLOG	medical logistics
MEDSURV	medical surveillance
MET	meteorological
mg	milligram(s)
MGPTS	modular general-purpose tent system
mi	mile(s)
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MILVAN	Military van (container)
min	Minute(s)
MO	Missouri
MOA	memorandum of agreement
MOB	main operations base
MOPP	mission-oriented protective posture
MOU	memorandum of understanding
MSDS	Material Safety Data Sheet
MTF	medical treatment facility
MTTP	multiservice tactics, techniques, and procedures

N

NAAK	nerve agent antidote kit
NAERG	North America Emergency Response Guide
NATO	North Atlantic Treaty Organization
CBRN	chemical, biological, radiological, and nuclear
NBI	nonbattle injury
NCIS	Naval Criminal Investigative Service
NDVECC	Navy Disease Vector Ecology Control Center
NEHC	Navy Environmental Health Center
NEO	noncombatant evacuation operation
NEPMU	Navy Environmental and Preventive Medicine Unit
NFPA	National Fire Protection Association
NG	National Guard

NGO	nongovernmental organization
NIMS	National Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NMRC	Navy Medical Research Center
NRC	National Response Center
NRCC	National Response Coordination Center
NRP	National Response Plan
NWDC	Navy Warfare Development Command
NWP	Navy Warfare Publication

O

OEG	operational exposure guide
OEH	occupational and environmental health
OPCEN	operations center
OPCON	operational control
OCONUS	outside the continental United States
OPLAN	operation plan
OPNAVINST	Office of the Chief of Naval Operations Instruction
OPORD	operation order
OPR	office of primary responsibility
OPREP	operational report
OPSEC	operations security
OSC	on-scene commander
OSHA	Occupational Safety and Health Administration
OSI	Office of Special Investigations

P

PHEO	public health emergency officer
PIR	priority intelligence requirement
PNT	positioning, navigation and timing
POC	point of contact
POD	port of debarkation
POE	port of embarkation
POL	petroleum, oil, and lubricants
POM	program objective memorandum
PPE	personal protective equipment
PPW	patient protective wrap
PVNTMED	preventive medicine

Q

QRF	quick response force

R

RDD	radiological dispersal device
RFA	request for assistance
RI	Rhode Island
RM	risk management
ROM	restriction of movement
ROTA	release other than attack
RRCC	Regional Response Coordination Center

S

S2	battalion or brigade intelligence staff officer
SA	situational awareness
SBCCOM	United States Army Soldier and Biological Chemical Command
SCBA	self-contained breathing apparatus
SecDef	Secretary of Defense
SIP	shelter in place
SITREP	situation report
SJA	staff judge advocate
SME	subject matter expert
SOFA	status-of-forces agreement
SOP	standard operating procedure
SPOD	seaport of debarkation
SPOE	seaport of embarkation
STANAG	standardization agreement

T

TBM	theater ballistic missile
TCN	third country national
TEMPER	tent, extendable, modular, personnel
TFA	toxic-free area
TIC	toxic industrial chemicals
TIM	toxic industrial material
TM	technical manual
TRADOC	United States Army Training and Doctrine Command
TSP	training support package
TTP	tactics, techniques, and procedures
TX	Texas

U

UAV	unmanned aircraft system
UC	Unified Command
US	United States
USA	United States Army

USACMLS	United States Army Chemical School
USAF	United States Air Force
USAMRICD	US Army Medical Research Institute for Chemical Defense
USAMRIID	United States Army Medical Research Institute of Infectious Diseases
USC	United States Code
USCG	United States Coast Guard
USG	United States Government
USMC	United States Marine Corps
USN	United States Navy
UTC	unit-type code

V

VA	Virginia, vulnerability assessment

W

WG	working group
WMD	weapons of mass destruction

PART II—TERMS AND DEFINITIONS

accidental attack An unintended attack which occurs without deliberate national design as a direct result of a random event, such as a mechanical failure, a simple human error, or an unauthorized action by a subordinate. (JP 1-02)

active defense The employment of limited offensive action and counterattacks to deny a contested area or position to the enemy. (JP 1-02)

air control operations (DOD) The employment of air forces, supported by ground and naval forces, as appropriate, to achieve military objectives in vital airspace areas. Such operations include destruction of enemy air and surface-to-air forces, interdiction of enemy air operations, protection of vital air lines of communications, and the establishment of local military superiority in areas of air operations. (JP 1-02)

aircrew contamination control area (ACCA) Designated area where aircrew personnel will be decontaminated. (AFMAN 10-2602)

antiterrorism Defensive measures used to reduce the vulnerability of individuals and property to terrorist acts, to include limited response and containment by local military forces. Also called AT. (JP 1-02)

area assessment The commander's prescribed collection of specific information that commences upon employment and is a continuous operation. It confirms, corrects, refutes, or adds to previous intelligence acquired from area studies and other sources prior to employment. (JP 3-05)

area of influence (DOD, NATO) A geographical area wherein a commander is directly capable of influencing operations by maneuver or fire support systems normally under the commander's command or control. (JP 1-02)

area of interest (DOD) That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces who could jeopardize the accomplishment of the mission. Also called AOI. (JP 1-02)

area of operations (DOD) An operational area defined by the joint force commander for land and naval forces. Areas of operation do not typically encompass the entire operational area of the joint force commander, but should be large enough for component commanders to accomplish their missions and protect their forces. Also called AO. (JP 1-02)

area of responsibility (DOD) The geographical area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. Also called AOR. (JP 3-0)

assembly area 1. An area in which a command is assembled preparatory to further action. 2. In a supply installation, the gross area used for collecting and combining components into complete units, kits, or assemblies. (JP 1-02)

assessment 1. Analysis of the security, effectiveness, and potential of an existing or planned intelligence activity. 2. Judgment of the motives, qualifications, and characteristics of present or prospective employees or "agents." (JP 1-02)

ballistic missile Any missile which does not rely upon aerodynamic surfaces to produce lift and consequently follows a ballistic trajectory when thrust is terminated.

base (DOD, NATO) 1. A locality from which operations are projected or supported. 2. An area or locality containing installations which provide logistic or other support. 3. (DOD only) Home airfield or home carrier. (JP 1-02)

biological agent A microorganism that causes disease in personnel, plants, or animals or causes the deterioration of materiel. (JP 1-02)

biological defense The methods, plans, and procedures involved in establishing and executing defensive measures against attacks using biological agents. (JP 1-02)

biological environment Conditions found in an area resulting from direct or persisting effects of biological weapons. (JP 1-02)

biological weapon An item of materiel which projects, disperses, or disseminates a biological agent including arthropod vectors. (JP 1-02)

capability The ability to execute a specified course of action. (A capability may or may not be accompanied by an intention.) (JP 1-02)

casualty Any person who is lost to the organization by having been declared dead, duty status – whereabouts unknown, missing, ill, or injured. (JP 1-02)

chemical agent Any toxic chemical intended for use in military operations. (JP 1-02)

CBRN defense Efforts to protect personnel on military installations and facilities from CBRN incidents. Also called CBRN defense. (JP 1-02)

chemical, biological, radiological, nuclear, or high-yield explosives incidents (DOD) An emergency resulting from the deliberate or unintentional, release of nuclear, biological, radiological, or toxic or poisonous chemical materials, or the detonation of a high-yield explosive. (FM 1-02)

chemical defense The methods, plans, and procedures involved in establishing and executing defensive measures against attack utilizing chemical agents. (JP 1-02)

chemical operation Employment of chemical agents to kill, injure, or incapacitate for a significant period of time, man or animals, and deny or hinder the use of areas, facilities, or materiel; or defense against such employment. (JP 1-02)

chemical survey The directed effort to determine the nature and degree of chemical hazard in an area and to delineate the perimeter of the hazard area. (JP 1-02)

chemical warfare All aspects of military operations involving the employment of lethal and incapacitating munitions/ agents and the warning and protective measures associated with such offensive operations. Since riot control agents and herbicides are not considered to be chemical warfare agents, those two items will be referred to separately or under the broader term "chemical," which will be used to include all types of chemical munitions/ agents collectively. Also called CW. (JP 1-02)

chemical weapon Together or separately, (a) a toxic chemical and its precursors, except when intended for a purpose not prohibited under the Chemical Weapons Convention; (b) a munition or device, specifically designed to cause death or other harm through toxic properties of those chemicals specified in (a), above, which would be released as a result of the employment of such munition or device; (c) any equipment specifically designed for use directly in connection with the employment of munitions or devices specified in (b), above. (JP 1-02)

civil defense All those activities and measures designed or undertaken to: a. minimize the effects upon the civilian population caused or which would be caused by an enemy attack on the United States; b. deal with the immediate emergency conditions that would be created by any such attack; and c. effectuate emergency repairs to, or the emergency restoration of, vital utilities and facilities destroyed or damaged by any such attack. (JP 1-02)

combatant command A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities. (JP 1-02)

command 1. The authority that a commander in the Armed Forces lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. 2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. 3. A unit or units, an organization, or an area under the command of one individual. (JP 1-02)

command and control The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a

commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called C2. (JP 1-02)

commander's critical information requirements A comprehensive list of information requirements identified by the commander as being critical in facilitating timely information management and the decision making process that affect successful mission accomplishment. The two key subcomponents are critical friendly force information and priority intelligence requirements. Also called CCIR. (JP 1-02)

common operational picture A single identical display of relevant information shared by more than one command. A common operational picture facilitates collaborative planning and assists all echelons to achieve situational awareness. Also called COP. (JP 1-02)

concept of operations A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations. The concept of operations frequently is embodied in campaign plans and operation plans; in the latter case, particularly when the plans cover a series of connected operations to be carried out simultaneously or in succession. The concept is designed to give an overall picture of the operation. It is included primarily for additional clarity of purpose. Also called CONOPS. (JP 1-02)

concept plan In the context of joint operation planning level 3 planning detail, an operation plan in an abbreviated format that may require considerable expansion or alteration to convert it into a complete operation plan or operation order. Also called CONPLAN. (JP 1-02)

consequence management Actions taken to maintain or restore essential services and manage and mitigate problems resulting from disasters and catastrophes, including natural, manmade, or terrorist incidents. Also called CM. (JP 1-02)

contaminated payload control area (CPCA) An area in which payload contamination control is effected.

containerize To fully encapsulate or enclose an item. A completely airtight enclosure. All such enclosures should be clearly marked to denote the hazard according to International Air Transport Association (IATA) regulations and Emergency Response Guide (ERG) (latest version).

continental United States United States territory, including the adjacent territorial waters, located within North America between Canada and Mexico. Also called CONUS. (JP 1-02)

course of action 1. Any sequence of activities that an individual or unit may follow. 2. A possible plan open to an individual or commander that would accomplish, or is related to the accomplishment of the mission. 3. The scheme adopted to accomplish a job or mission. 4. A line of conduct in an engagement. 5. A product of the Joint Operation Planning and Execution System concept development phase. Also called COA. (JP 1-02)

critical information (DOD) Specific facts about friendly intentions, capabilities, and activities vitally needed by adversaries for them to plan and act effectively so as to guarantee failure or unacceptable consequences for friendly mission accomplishment. (JP 1-02)

debarkation The unloading of troops, equipment, or supplies from a ship or aircraft. (JP 1-02)

decontamination The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or removing chemical or biological agents, or by removing radioactive material clinging to or around it. (JP 1-02)

decontamination zone An area for effecting the process of making any person or object safe by destroying, neutralizing, making harmless, or removing contamination from payloads prior to aircraft loading.

deliberate attack A type of offensive action characterized by preplanned coordinated employment of firepower and maneuver to close with and destroy or capture the enemy. (JP 1-02)

Department of the Army The executive part of the Department of the Army at the seat of government and all field headquarters, forces, Reserve Components, installations, activities, and functions under the control or supervision of the Secretary of the Army. Also called DA. (JP 1-02)

detection 1. In tactical operations, the perception of an object of possible military interest but unconfirmed by recognition. 2. In surveillance, the determination and transmission by a surveillance system that an event has occurred. 3. In arms control, the first step in the process of ascertaining the occurrence of a violation of an arms control agreement. 4. In chemical, biological, radiological, and nuclear (CBRN) environments, the act of locating CBRN hazards by use of CBRN detectors or monitoring and/ or survey teams. (JP 1-02)

directive 1. A military communication in which policy is established or a specific action is ordered. 2. A plan issued with a view to putting it into effect when so directed, or in the event that a stated contingency arises. 3. Broadly speaking, any communication which initiates or governs action, conduct, or procedure. (JP 1-02)

embarkation The process of putting personnel and/ or vehicles and their associated stores and equipment into ships and/ or aircraft. (JP 1-02)

emergency-essential employee A Department of Defense civilian employee whose assigned duties and responsibilities must be accomplished following the evacuation of non-essential personnel (including dependents) during a declared emergency or outbreak of war. The position occupied cannot be converted to a military billet because it requires uninterrupted performance so as to provide immediate and continuing support for combat operations and/ or combat systems support functions. (JP 1-02)

en route care Continuation of the provision of care during movement (evacuation) between the health service support capabilities in the continuum of care, without clinically compromising the patient's condition. (JP 1-02)

entrance zone An area designated for entering a contaminated payload control area.

evacuation 1. The process of moving any person who is wounded, injured, or ill to and/ or between medical treatment facilities. 2. The clearance of personnel, animals, or materiel from a given locality. 3. The controlled process of collecting, classifying, and shipping unserviceable or abandoned materiel, US or foreign, to appropriate reclamation, maintenance, technical intelligence, or disposal facilities. 4. The ordered or authorized departure of noncombatants from a specific area by Department of State, Department of Defense, or appropriate military commander. This refers to the movement from one area to another in the same or different countries. The evacuation is caused by unusual or emergency circumstances and applies equally to command or non-command sponsored family members. (JP 1-02)

exercise A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training and evaluation. It may be a multinational, joint, or single-Service exercise, depending on participating organizations. (JP 1-02)

explosive ordnance All munitions containing explosives, nuclear fission or fusion materials, and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket, and small arms ammunition; all mines, torpedoes, and depth charges; demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature. (JP 1-02)

explosive ordnance disposal The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of unexploded explosive ordnance. It may also include explosive ordnance which has become hazardous by damage or deterioration. Also called EOD. (JP 1-02)

field of view 1. In photography, the angle between two rays passing through the perspective center (rear nodal point) of a camera lens to the two opposite sides of the

format. Not to be confused with "angle of view." 2. The total solid angle available to the gunner when looking through the gunsight. Also called FOV. (JP 1-02)

force health protection Measures to promote, improve, or conserve the mental and physical wellbeing of Service members. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards. Also called FHP. (JP 1-02)

force protection Actions taken to prevent or mitigate hostile actions against Department of Defense personnel (to include family members), resources, facilities, and critical information. Force protection does not include actions to defeat the enemy or protect against accidents, weather, or disease. Also called FP. (JP 1-02)

force protection condition (DOD) A Chairman of the Joint Chiefs of Staff-approved program standardizing the Military Services' identification of and recommended responses to terrorist threats against US personnel and facilities. This program facilitates inter-Service coordination and support for antiterrorism activities. Also called FPCON. There are four FPCONs above normal. a. FPCON ALPHA -- This condition applies when there is a general threat of possible terrorist activity against personnel and facilities, the nature and extent of which are unpredictable, and circumstances do not justify full implementation of FPCON BRAVO measures. However, it may be necessary to implement certain measures from higher FPCONs resulting from intelligence received or as a deterrent. The measures in this FPCON must be capable of being maintained indefinitely. b. FPCON BRAVO--This condition applies when an increased and more predictable threat of terrorist activity exists. The measures in this FPCON must be capable of being maintained for weeks without causing undue hardship, affecting operational capability, and aggravating relations with local authorities. c. FPCON CHARLIE--This condition applies when an incident occurs or intelligence is received indicating some form of terrorist action against personnel and facilities is imminent. Implementation of measures in this FPCON for more than a short period probably will create hardship and affect the peacetime activities of the unit and its personnel. d. FPCON DELTA--This condition applies in the immediate area where a terrorist attack has occurred or when intelligence has been received that terrorist action against a specific location or person is likely. Normally, this FPCON is declared as a localized condition. (JP 1-02)

host nation (DOD) A nation that receives the forces and/or supplies of allied nations, coalition partners, and/or NATO organizations to be located on, to operate in, or to transit through its territory. Also called HN. (JP 1-02)

host-nation support (DOD) Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. Also called HNS. (JP 1-02)

host-nation support agreement (DOD) Basic agreement normally concluded at government-to-government or government-to-combatant commander level. These agreements may include general agreements, umbrella agreements, and memoranda of understanding. (JP 1-02)

improvised explosive device A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and designed to destroy, incapacitate, harass, or distract. It may incorporate military stores, but is normally devised from nonmilitary components. Also called IED. (JP 1-02)

individual protective equipment In chemical, biological, radiological, and nuclear warfare, the personal clothing and equipment required to protect an individual from biological and chemical hazards and some nuclear effects. Also called IPE. (JP 1-02)

in-flight decontamination An accelerated vaporisation of volatile contaminants using a forced ventilation method to reduce aircraft interior contamination through the repeated use of smoke and fume elimination procedures.

installation (DOD) A grouping of facilities, located in the same vicinity, which support particular functions. Installations may be elements of a base. (JP 1-02)

joint doctrine Fundamental principles that guide the employment of forces of two or more Military Departments in coordinated action toward a common objective. It is authoritative; as such, joint doctrine will be followed except when, in the judgment of the commander, exceptional circumstances dictate otherwise. It will be promulgated by or for the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commands and Services. (JP 1-02)

joint force A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments operating under a single joint force commander. (JP 1-02)

joint force commander A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called JFC. (JP 1-02)

joint publication A publication containing joint doctrine that is prepared under the direction and authority of the Chairman of the Joint Chiefs of Staff and applies to all Armed Forces of the United States. Also called JP. See also Chairman of the Joint Chiefs of Staff instruction; Chairman of the Joint Chiefs of Staff manual; joint doctrine; joint test publication. (JP 1-02)

joint rear area operations (DOD) Those operations in the joint rear area that facilitate protection or support of the joint force.

joint rear area (DOD) A specific land area within a joint force commander's operational area designated to facilitate protection and operation of installations and forces supporting the joint force. Also called JRA.

joint tactics, techniques, and procedures The actions and methods that implement joint doctrine and describe how forces will be employed in joint operations. They are authoritative; as such, joint tactics, techniques, and procedures will be followed except

when, in the judgment of the commander, exceptional circumstances dictate otherwise. They will be promulgated by the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commands and Services. Also called JTTP.

joint task force A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a subunified commander, or an existing joint task force commander. Also called JTF. (JP 1-02)

law enforcement agency Any of a number of agencies (outside the Department of Defense) chartered and empowered to enforce US laws in the following jurisdictions: The United States, a state (or political subdivision) of the United States, a territory or possession (or political subdivision) of the United States, or within the borders of a host nation. Also called LEA. (JP 1-02)

liquid hazard area (LHA) An area in a contaminated payload control area where both liquid and vapor chemical warfare agents may exist.

loading zone An area for loading decontaminated payloads onto aircraft.

low level Refers to hazard levels that are not expected to produce health effects of significant physiological impact and thus would not pose notable (operational) impact.

main operations base (DOD) In special operations, a base established by a joint force special operations component commander or a subordinate special operations component commander in friendly territory to provide sustained command and control, administration, and logistical support to special operations activities in designated areas. Also called MOB. (JP 1-02)

marshaling zone An area for assembling, holding, and organizing supplies, equipment, and/or vehicles for onward movement.

mass casualty Any large number of casualties produced in a relatively short period of time, usually as the result of a single incident such as a military aircraft accident, hurricane, flood, earthquake, or armed attack that exceeds local logistic support capabilities. Also called MASCAL. (JP 1-02)

medical surveillance The ongoing, systematic collection of health data essential to the evaluation, planning, and implementation of public health practice, closely integrated with timely dissemination of data as required by higher authority. Also called MEDSURV. (JP 1-02)

military van (container) Military-owned, demountable container, conforming to US and international standards, operated in a centrally controlled fleet for movement of military cargo. Also called MILVAN. (JP 1-02)

mission essential payloads Payloads that must move under any circumstance (i.e., wounded personnel, weapon systems, munitions, or classified material).

mission support payloads Payloads that can wait until contamination control procedures have reduced contamination to a vapor-only hazard as determined by available detection methods.

mutual support (DOD, NATO) That support which units render each other against an enemy, because of their assigned tasks, their position relative to each other and to the enemy, and their inherent capabilities. (JP 1-02)

negligible risk An insignificant amount of risk for conducting military operations. A degree of risk where personnel are reasonably safe.

nonbattle injury A person who becomes a casualty due to circumstances not directly attributable to hostile action or terrorist activity. Also called NBI. (JP 1-02)

noncombatant evacuation operations Operations directed by the Department of State, the Department of Defense, or other appropriate authority whereby noncombatants are evacuated from foreign countries when their lives are endangered by war, civil unrest, or natural disaster to safe havens or to the United States. Also called NEOs. (JP 1-02)

on-scene commander 1. The person designated to coordinate the rescue efforts at the rescue site. 2. Federal officer designated to direct federal crisis and consequence management efforts at the scene of a terrorist or weapons of mass destruction incident. Also called OSC. (JP 1-02)

operational area An overarching term encompassing more descriptive terms for geographic areas in which military operations are conducted. Operational areas include, but are not limited to, such descriptors as area of responsibility, theater of war, theater of operations, joint operations area, amphibious objective area, joint special operations area, and area of operations. Also called OA. (JP 1-02)

operational control Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. When forces are transferred between combatant commands, the command relationship the gaining commander will exercise (and the losing commander will relinquish) over these forces must be specified by the Secretary of Defense. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/ or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative

direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called OPCON. (JP 1-02)

operational decontamination Decontamination carried out by an individual and/or a unit, restricted to specific parts of operationally essential equipment, materiel and/or working areas, in order to minimize contact and transfer hazards and to sustain operations. This may include decontamination of the individual beyond the scope of immediate decontamination, as well as decontamination of mission-essential spares and limited terrain decontamination. (JP 1-02)

operational environment A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. (JP 1-02)

operations center (DOD) The facility or location on an installation, base, or facility used by the commander to command, control, and coordinate all crisis activities. Also called OC. (JP 1-02)

operations security A process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to: a. identify those actions that can be observed by adversary intelligence systems; b. determine indicators that hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries; and c. select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation. Also called OPSEC. (JP 1-02)

passive defense Measures taken to reduce the probability of and to minimize the effects of damage caused by hostile action without the intention of taking the initiative. (JP 1-02)

port of debarkation (DOD) The geographic point at which cargo or personnel are discharged. This may be a seaport or aerial port of debarkation; for unit requirements; it may or may not coincide with the destination. Also called POD. (JP 1-02)

port of embarkation (DOD) The geographic point in a routing scheme from which cargo or personnel depart. This may be a seaport or aerial port from which personnel and equipment flow to a port of debarkation; for unit and non-unit requirements, it may or may not coincide with the origin. Also called POE. (JP 1-02)

port security (DOD, NATO) The safeguarding of vessels, harbors, ports, waterfront facilities, and cargo from internal threats such as destruction, loss, or injury from sabotage or other subversive acts; accidents; thefts; or other causes of similar nature. (JP 1-02)

port support activity (DOD) A tailorable support organization composed of mobilization station assets that ensures the equipment of the deploying units is ready to load. The port support activity (PSA) operates unique equipment in conjunction with

ship loading operations. The PSA is operationally controlled by the military port commander or terminal transfer unit commander. Also called PSA. (JP 1-02)

pre-position To place military units, equipment, or supplies at or near the point of planned use or at a designated location to reduce reaction time, and to ensure timely support of a specific force during initial phases of an operation. (JP 1-02)

preventive medicine The anticipation, communication, prediction, identification, prevention, education, risk assessment, and control of communicable diseases, illnesses and exposure to endemic, occupational, and environmental threats. These threats include nonbattle injuries, combat stress responses, weapons of mass destruction, and other threats to the health and readiness of military personnel. Communicable diseases include anthropod-, vector-, food-, waste-, and waterborne diseases. Preventative medicine measures include field sanitation, medical surveillance, pest and vector control, disease risk assessment, environmental and occupational health surveillance, waste (human, hazardous, and medical) disposal, food safety inspection, and potable water surveillance. Also called PVNTMED. (JP 1-02)

priority intelligence requirement An intelligence requirement, stated as a priority forintelligence support, that the commander and staff need to understand the adversary or the operational environment. Also called PIR. (JP 1-02)

reconnaissance A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area. Also called recon. (JP 1-02)

retrograde payloads Payloads that will move only when the payload is contamination-free as determined by local detection methods.

risk assessment The identification and assessment of hazards (first two steps of risk management process). (JP 1-02)

risk management The process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits. Also called RM. (JP 1-02)

status-of-forces agreement An agreement that defines the legal position of a visiting military force deployed in the territory of a friendly state. Agreements delineating the status of visiting military forces may be bilateral or multilateral. Provisions pertaining to the status of visiting forces may be set forth in a separate agreement, or they may form a part of a more comprehensive agreement. These provisions describe how the authorities of a visiting force may control members of that force and the amenability of the force or its members to the local law or to the authority of local officials. To the extent that agreements delineate matters affecting the relations between a military force and civilian authorities and population, they may be considered as civil affairs agreements. Also called SOFA.

support 1. The action of a force that aids, protects, complements, or sustains another force in accordance with a directive requiring such action. 2. A unit that helps another unit in battle. 3. An element of a command that assists, protects, or supplies other forces in combat. (JP 1-02)

surveillance The systematic observation of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means. (JP 1-02)

survey The directed effort to determine the location and the nature of a chemical, biological, and radiological hazard in an area. (JP 1-02)

sustainment The provision of personnel, logistic, and other support required to maintain and prolong operations or combat until successful accomplishment of the mission. (JP 1-02)

terrorism The calculated use of unlawful violence or threat of unlawful violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological. (JP 1-02)

thorough decontamination Decontamination carried out by a unit, with or without external support, to reduce contamination on personnel, equipment, materiel, and/ or working areas equal to natural background or to the lowest possible levels, to permit the partial or total removal of individual protective equipment and to maintain operations with minimum degradation. This may include terrain decontamination beyond the scope of operational decontamination. (JP 1-02)

threat analysis In antiterrorism, a continual process of compiling and examining all available information concerning potential terrorist activities by terrorist groups which could target a facility. A threat analysis will review the factors of a terrorist group's existence, capability, intentions, history, and targeting, as well as the security environment within which friendly forces operate. Threat analysis is an essential step in identifying probability of terrorist attack and results in a threat assessment. (JP 1-02)

toxic chemical Any chemical which, through its chemical action on life processes, can cause death, temporary incapacitation, or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere. (JP 1-02)

vapor hazard area (VHA) An area in a contaminated payload control area where chemical warfare agent vapor hazards may exist.

vulnerability 1. The susceptibility of a nation or military force to any action by any means through which its war potential or combat effectiveness may be reduced or its will to fight diminished. 2. The characteristics of a system that cause it to suffer a definite degradation (incapability to perform the designated mission) as a result of

having been subjected to a certain level of effects in an unnatural (manmade) hostile environment. 3. In information operations, a weakness in information system security design, procedures, implementation, or internal controls that could be exploited to gain unauthorized access to information or an information system. (JP 1-02)

vulnerability assessment A Department of Defense, command, or unit-level evaluation (assessment) to determine the vulnerability of a terrorist attack against an installation, unit, exercise, port, ship, residence, facility, or other site. Identifies areas of improvement to withstand, mitigate, or deter acts of violence or terrorism. Also called VA. (JP 1-02)

weapons of mass destruction Weapons that are capable of a high order of destruction and/ or of being used in such a manner as to destroy large numbers of people. Weapons of mass destruction can be high explosives or nuclear, biological, chemical, and radiological weapons, but exclude the means of transporting or propelling the weapon where such means is a separable and divisible part of the weapon. Also called WMD. (JP 1-02)

weathering The natural evaporation and decomposition of chemical compounds that occurs over time. Sunlight, high temperature, wind, and moisture aid the weathering process.

weathering zone An area located within the decontamination zone for effecting the process of making any person or object safe by natural neutralization processes and/or making harmless all contamination from payloads prior to aircraft loading.

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